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IN THE

Supreme Court of the United States

OCTOBER TERM 1930.

No. 51.

SARANAC AUTOMATIC MACHINE CORPORATION,
Petitioner,

v.

WIREBOUNDS PATENTS COMPANY and 4-ONE BOX MACHINE MAKERS,
Respondents.

RESPONDENTS' BRIEF

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To the Honorable the Chief Justice and the Associate Justices of the Supreme Court of the United States.

MAY IT PLEASE THE COURT:

Respondents were plaintiffs in the Trial Court and appellants in the Circuit Court of Appeals for the Sixth Circuit. The suit is in equity, for patent infringement. Conventional defenses assert invalidity of the patent for lack of invention, and non-infringement.

Early Litigation on Patent in Suit.

Stated in chronological order, the following decisions have dealt with the patent in suit:

1. In the District Court for the Northern District of Illinois, Eastern Division, the suit of these Respondents against H. R. Gibbons Box Company (a licensee of Petitioner) was dismissed for want of equity, without opinion (unreported).

2. In the District Court for the Western District of Michigan, Southern Division, the suit now at bar was dismissed; the patent in suit was held not infringed (24 Fed. (2nd) 872).

3. In the Circuit Court of Appeals for the Seventh Circuit, the decree of dismissal in the Illinois suit was affirmed upon a holding of invalidity of three patents there in suit (including the patent now at bar), but reversed as to a fourth (25 Fed. (2nd) 363).

4. In the Circuit Court of Appeals for the Sixth Circuit, the decree of dismissal in the Michigan suit was *reversed;* a typical claim 25 of the patent now at bar was held valid and infringed. The Court of Appeals considered it unnecessary to decide validity or infringement as to Respondents' other patents, and therefore dismissed the suit as to them, but *without prejudice* (37 Fed. (2nd) 830).

5. The cause which originated in Michigan is before this Court on a writ of *certiorari* to the Circuit Court of Appeals for the Sixth Circuit, to review the finding of validity and infringement of a single claim, number 25, of patent No. 1,128,145 granted February 9, 1915, to Inwood and Lavenberg for a so-called "box-blank machine." The corresponding method patent and a patent on a "work-holder" used in the blank machine, both of which issued also on February 9, 1915, were before the Court of Ap-

peals for the Sixth Circuit. But they were the subject of the dismissal without prejudice, and are not now in issue.

A supplementary statement of the case is here needed to correct omissions, inaccuracies and erroneous implications in the statement of Petitioner's brief.

Supplementary Statement of the Case.

On first impression, it might seem that the weight of authority is against validity and infringement of the patent in suit. Two District Courts and the Circuit Court of Appeals for the Seventh Circuit have found, upon one ground or another, invalidity or non-infringement of Respondents' patent.

Petitioners' statement of the case appears to imply that these three decisions proceeded upon unanimity of reasoning, and arrived at like conclusions by uniform applications of pertinent law.

That implication, however, is erroneous.

On the contrary, the decisions against the patent have been difficult to reconcile with each other; they have followed different courses of reasoning; they have arrived at different specific conclusions. In each adverse opinion, the findings of fact have been inconsistent with the conclusions of law.

A probable reason for this confusion of thought was pointed out in the opinion of the Circuit Court of Appeals for the Sixth Circuit. There the Court referred to the three patents then in suit (on the blank machine, workholder, and method), and a fourth patent indirectly involved (on a box structure); and said (opinion by His Honor Judge DENISON; 37 Fed. (2nd), at 831):

"Much litigation touching these four patents was had, and which we will later discuss. It is now enough to say that what is certainly a simple and, as it appears to us, rather a clear issue has become obscured and, we venture to think, confused by the complications arising through an effort to consider all of these three or four patents at once; and the result has been that they have seemed to some extent mutually to destroy each other (as to the three now involved) and thus to leave without protection an advance step in the art which had *great commercial acceptance and value.** The organized [blank] machine involved and disclosed the use of the method of the third patent and, as well, the use of the subordinate and partial apparatus of the first. It seems to us the most logical method of approach, to consider first this [blank] machine patent on its merits, on the issues of validity and infringement, just as if the patentees had attempted no further and different protection; and if that patent is found valid and infringed, then next to consider what effect, if any, the other patents should have upon the controversy."

By this simple and sagacious course, Judge DENISON's reasoning led to the sound conclusion that the blank machine patent is valid and had been infringed, and that the other patents had no effect thereon.

In the end, Judge DENISON confined the decision to a finding of validity and infringement of a typical claim 25 of the blank-machine patent, here alone in issue, No. 1,128,145 (R. Vol. II, p. 1193; claim 25 at p. 1208). Judge DENISON stated, as follows, the reasons for omitting to decide upon the other patents (37 Fed. (2nd), at 841):

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*All italics in this brief are those of the present writer, unless otherwise indicated.

"We see no occasion for deciding these questions of validity of the method patent and the validity and infringement of the workholder patent. So far as has been pointed out or as we observe, there has not been and is not likely to be any commercially important infringement of either of these patents, *which does not also infringe the machine patent.* They were all issued on the same day and expire at the same time. Questions of accounting, so far as we see, are the same under claim 25 of the [blank] machine patent, as we have construed it, as under any other claims of that or the other patents; and while theoretically the right to injunction might be important, we see no indication that it will be of practical value, because other methods would cost too much. In this situation we have frequently declined to enter upon difficult questions which are practically moot. If we misjudge this situation, and our further consideration of the other claims in suit under any patent is reasonably necessary to settle the controversy between these parties in its present or in any probable modified form, counsel may suggest the necessity and we will give it attention."

Finally, Judge DENISON said (ibid):

"The decree below will be reversed, with instructions to enter the usual decree for injunction and accounting, based on claim 25 of the [blank] machine patent, and to dismiss the bill, *without prejudice,* as to the method and workholder patents. The other claims of the machine patent may be ignored in the decree."

Thus the Circuit Court of Appeals for the Sixth Circuit reduced the issues to the simplest possible terms, and avoided the confusion which seems to have led to the erroneous conclusions of the other Courts.

In spite of the confusion of thought indicated in the opinions adverse to Respondents' patent, all those opinions manifest a striking unanimity of fact-finding as to particulars of fundamental importance. The facts uniformly found should have constrained all the Courts (as they did the Court of Appeals for the Sixth Circuit) to conclude that a pioneer and inventive contribution, entitled to broad patent protection, must be credited to Inwood and Lavenberg, the joint inventors of the patent in suit. But, having found such facts, the Courts (excepting the Court of Appeals for the Sixth Circuit) were somehow deflected from the conclusions which logically should have ensued.

Presently we shall quote pertinent fact-findings from the several opinions, to show the general recognition of the radical advance in the art accomplished by Inwood and Lavenberg. But, by way of preface, we shall first summarize the historical facts in the background of the Inwood and Lavenberg invention.

For more than ten years prior to Inwood and Lavenberg, a series of inventors, assisted by adequate capital and supervised by competent business men, had attempted to create a business in the manufacture of wirebound boxes (R. Vol. II, p. 707 *et seq.*). The record has referred to these inventors as the "Rosback" inventors, one Rosback having been an outstanding figure in the work.

They succeeded, as early as 1894, in devising a strong and useful species of box employing thin, cheap lumber so re-enforced by wire as to permit the use of considerably less wood than was required in the conventional nailed and like boxes (R. Vol. II, p. 891 *et seq.*). This box, referred to throughout the record as the "Rosback box", was a highly

desirable commercial box (see testimony of Healy, R., Vol. II, p. 825; Stephens, *id.*, p. 893; and Master's finding 11 in Healy title suit, R., Vol. I, p. 453).

In spite of ten years of persistent effort, these inventors found it impossible *to manufacture* their wirebound boxes commercially. They lacked automatic machinery which would produce the boxes economically. When Inwood and Lavenberg entered the field, it was literally true that there was not, and never had been, any going business in the manufacture of wirebound boxes (R. Vol. II, pp. 713, 714).

The Rosback inventors all tried to make the boxes by the use of *two* machines, one called a "blank machine" (see Rosback patent No. 614,348; R. Vol. III, p. 1407) and the other a "step-mitre machine" (see Rosback patent No. 623,258; R. Vol. III, p. 1428). The blank machine was constructed to receive two long parallel strips of wooden cleat-material (roughly, an inch square in cross-section and a few feet in length), each long enough to supply, eventually, the four aligned cleats for one end of the box-blank (see Rosback patent 623,258, Figs. 34 and 35; R. Vol. III, p. 1426). The two long cleat strips were placed in the machine, to lie parallel and spaced apart in a horizontal plane. A long sheet of wooden veneer, called the "side-material", was laid on top of the cleat strips, to furnish, in one piece, the top, bottom, front and rear sides of the box. The cleat strips and side-material were so arranged that opposite margins of the latter rested upon the cleat strips.

Thus three elements were assembled in the blank-machine, namely, the two long cleat strips and the sheet of side-material.

This three-part assembly was moved through the machine (in a direction lengthwise the cleat strips) so that first the advance end of the assembly, and then successive parts thereof, were presented beneath wire-feeding and staple-driving mechanisms. These laid on binding wires and drove staples astride thereof, and through the side-material into the cleats, to secure the binding wires to the wooden parts from end to end of the assembly.

When the wooden assembly emerged from the blank-machine, it was equipped with the binding wires stapled to the side material and cleats, and extending throughout the length of the so-called "preliminary box-blank". Some of each wire extended beyond both ends of the blank to be twisted together in the final closure of the box. (See drawing of Rosback Preliminary Blank, *post*, p. 32.)

This preliminary blank—the product of the Rosback *first* or "blank"-machine, was a *rigid* and *inflexible* unit, maintained so by the long integral cleat strips. At that stage, it was in no sense a *foldable* box-blank.

This *rigid* blank was next introduced into the *second* or "step-mitre" machine. Therein the blank was pushed edgewise (*i. e.*, in a horizontal plane, in a direction perpendicular to the length of the cleat strips) so that five gangs of saws and five gangs of cutters might sever the long cleat strips at intervals, to provide eight individual cleats (in two rows of four each) and step-mitre their ends so that in folding they would mate together at the respective box-corners. At the same time, scoring knives cut part way through the side-material, along the lines of the intended corners of the box, so as to facilitate the bending of the side-material in folding the flat blank into box form.

When the blank emerged from the step-mitre machine, it was a foldable, wirebound box-blank having eight sepa-

rate cleats, each step-mitred at its ends. The long sheet of side-material was marked off, so to speak, by the lines of scoring, to define the top, bottom, front and rear sides of the intended box. (See drawing of Rosback Foldable Blank, *post*, p. 32.)

Thus, the Rosback practice was characterized by first making the *rigid* preliminary blank having the *two* long, stiff cleat strips; and thereafter forming the *eight* separate cleats by a *severing* or *cutting* operation on the step-mitre machine.

Obviously, it was important that the saws and cutters of the step-mitre machine be relatively adjusted with great accuracy, so that the severed cleats would have their step-mitred ends correctly spaced apart on the flexible flat blank, to be foldable into close juxtaposition when the blank was bent into the four-sided box form. This relationship of adjacent cleat-ends in the foldable blank is referred to in the patents here involved, and in the testimony, as a "foldable relationship".

In sharp contrast with the Rosback practice, Inwood and Lavenberg performed the blank-making operations upon a *single* machine (that of the patent here in issue). They avoided using the *two* Rosback blank and step-mitre machines. The immediate product of Inwood and Lavenberg's *single* machine was the finished, foldable, eight-cleated blank, having the cleats step-mitred at their ends and placed in the same foldable relationships which characterized the final product of Rosback's step-mitre machine.

Inwood and Lavenberg were able to perform the blank-making operations upon a *single* "blank-machine", because they conceived and successfully embodied the idea of *assem-*

bling and relatively *positioning* upon that machine eight individual cleats which had *already* been cut to length and step-mitred. They assembled the side-material with the preformed cleats, and passed the *eight-cleated* assembly through stapling and wire-applying mechanisms, to wire the blank and produce *at once* the complete foldable flat blank ready to be bent into box-form.

The preforming of the individual cleats from detached pieces of wood, was a simple and economical wood-working operation requiring only conventional saws and cutters and permitting the use of relatively short and cheap pieces of cleat-wood (otherwise largely waste material) as contrasted with the long and sound wood strips required in the Rosback practice. (R. Vol. II, p. 726.) The new practice avoided the complexity of the five sets of saws and five sets of cutters in the Rosback step-mitre machine. It obviated the trouble of maintaining the old saws and cutters in strict relative adjustment to co-ordinate them for accurately severing and scoring the unwieldy Rosback rigid blank.

The relative positioning of the preformed cleats in the Inwood and Lavenberg blank-machine required, essentially, the provision of *mechanical means* for determining accurately the relation of each cleat-end to the next adjacent cleat-end, so that the perpetuation of the cleat relationships, by attachment of the binding wires, would maintain the cleat-ends in their indispensable foldable relationships and enable them to mate accurately when the blank was folded. The desideratum of major importance was this: When the binding wire had been stapled to one cleat, the next following cleat in the row must be accurately *positioned* relative to the first cleat preparatory to the attachment of the wire to the second cleat.

The mechanical invention of Inwood and Lavenberg consisted, therefore, first, in conceiving the function of accurately *positioning* separate preformed cleats in foldable relation; and, second, in providing *mechanical means* to perform this positioning office which had never been *suggested nor performed at any time in the prior art.*

Summarizing: The Rosback inventors tried for ten years (unsuccessfully) to commercialize the practice of producing first a rigid wired blank on one machine; and then converting the rigid blank into an eight-cleated foldable blank by complex *cutting* operations (on the stepmitre machine), to produce eight cleats in foldable relationship. Inwood and Lavenberg invented a *single* machine which simply by *positioning* operations produced immediately an eight-cleated foldable blank with the cleats in the *same relationships* as in the finished Rosback blank.

Rosback produced cleat relationships by *cutting* cleats upon a rigid blank. Inwood and Lavenberg produced cleat relationships by *assembling* and *positioning* operations.

Rosback never encountered nor solved any problem involving the *mechanical positioning* of separate, detached cleats which must be held in foldable relationships preparatory to wiring operations. But Inwood and Lavenberg's perception and solution of precisely that problem, with the resulting great simplification of mechanisms, was their major contribution to the art upon which a valuable industry was founded.

The foregoing outlines the principal facts upon which Inwood and Lavenberg's advance in the art must be appraised. All of the Courts who have written opinions upon the subject have discussed these facts, in one form or an-

other, with the clear implication that Inwood and Lavenberg should be credited with a meritorious practical accomplishment.

Three opinions require consideration: that of the District Court in the Michigan suit; that of the Circuit Court of Appeals for the Seventh Circuit (including a supplementary opinion on petition for re-hearing); and that of the Circuit Court of Appeals for the Sixth Circuit. As already said, the District Court in the Illinois suit wrote no opinion.

Taking these opinions in chronological order, His Honor Judge RAYMOND, in the District Court in the Michigan suit, held that the patent here in issue had not been infringed (24 Fed. (2nd) 872). But on the subject of Inwood and Lavenberg's contribution, Judge RAYMOND said (ibid):

> "The history of the prior art briefly stated discloses that for a period of about ten years prior to these [Inwood and Lavenberg] inventions a series of inventors (known for convenience as the Rosback inventors) had endeavored to produce a box to replace the nailed box then in general use; the principal object sought being to combine strength, lightness, flexibility, possibility of use of cheap materials and economical production. *These efforts resulted in failure,* although it is evident that the conception was present that thin veneer and cleats might be co-ordinated with wire in some manner to produce the desired result. The nearest approach to success was the use of a single sheet of selected veneer, long enough to supply the four sides of the box, assembled with cleat-material of substantially the same length. Wire was stapled to this single veneer sheet, thereby producing a rigid blank, which was pushed through a step-mitering machine, which cut the cleat strips into four

lengths, trimmed the two ends of the blanks, and simultaneously step-mitered the respective cleat-ends and lightly scored the long veneer sheet along the folding lines to facilitate bending. This method produced a box which was light and strong, but which lacked flexibility and elasticity.

"The substantial obstacles encountered, however, were the *impossibility of automatic or partly automatic production* and the checking and occasional breaking of the veneer sheets at or near the corners of the boxes."

This "impossibility of automatic or partly automatic production," means no more nor less than the lack of a practical *machine*,—a lack which endured until Inwood and Lavenberg made their blank-machine invention.

Later Judge RAYMOND said (*ibid.*, 873):

"The underlying concept of the patents in suit is stated by plaintiffs to be the *mechanical positioning* of cleats and sheets in co-ordinated foldable relationships so that the immediate product of the machine shall be the foldable blank having relationships and co-ordination of its parts in the finished box definitely pre-determined. This is accomplished by the assembly of cleats and sheets upon a workholder in relationship to each other *determined by mechanical positioning devices*, these relationships being perpetuated by binding wires and staples. Rosback and his associates propelled raw material strips through a blank machine to produce a rigid blank, which had to be made foldable at a subsequent step by means of a step-mitering machine. Plaintiffs' [Respondents'] expert states the comparison concisely as follows:

" 'The Rosback practices had taught the idea of producing foldable relationships by the operation of *cutting* the preliminary rigid blank. Inwood and

> Lavenberg rejected that teaching and solved their problem by relatively *positioning and wiring together* entirely separate parts in such manner that their intended co-operation in the finished box should be ensured. In brief, Rosback taught the production of foldable relationships by *cutting*. Inwood and Lavenberg produced a flexible box-blank by an *assembling* and wiring together of separate elements' ".

Again Judge RAYMOND said (page 873):

> "It seems to the Court that plaintiff's expert has correctly expressed the *improvement* of the Inwood and Lavenberg patents *over the preceding Rosback inventions* in the comparison hereinbefore quoted, namely, that Rosback taught the production of foldable relationships by *cutting*, while Inwood and Lavenberg taught the production of foldable relationships by *assembling and wiring together* separate box elements".

Clearly, then, Judge RAYMOND recognized that, in spite of ten years of endeavor, the Rosback inventors had been unable to surmount the obstacle of "the impossibility of automatic or partly automatic production" upon their *two* blank and step-mitre machines,—while Inwood and Lavenberg had rejected the Rosback teachings and contributed a radically new mechanical concept.

The unmistakable implication of Judge RAYMOND's opinion is that Inwood and Lavenberg had done something meritorious. Nevertheless, Judge RAYMOND found non-infringement and was then reversed by the Court of Appeals for the Sixth Circuit.

At a later point, we will discuss Judge RAYMOND's con-

clusions and contrast them with those of the other Courts which have decided adversely to Respondents.

After Judge RAYMOND's decision in the Michigan case, the suit in Illinois reached the Seventh Circuit Court of Appeals. The opinion of that Court was written by His Honor District Judge LINDLEY (25 Fed. (2d), 363):

Judge LINDLEY said (page 364):

> "They [Inwood and Lavenberg] *abandoned Rosback's teaching* of first assembling one sheet and two co-extensive cleats and subsequently *cutting and step-mitering* the latter, but retained his idea of stapling the binding wire to the sheets and cleats.
>
> "However, they made a new box out of the old elements. Rosback tried to get a similar result, but *his manner and method of construction proved impracticable*. He started with the long cleat strips and long side veneer sheets, and proceeded through the successive steps securing the cleats to the rigid side blank, step-mitering the cleats, and scoring the veneer. This resulted in a veneer box bent upon the scored lines, which proved unsatisfactory and impracticable in *its method of construction*. Patentees' [Inwood and Lavenberg] method *reversed this order* by preforming separately the cleats and sides. They avoided the faulty bending of the veneer along the scored lines and other defects of Rosback's product. They *assembled and wired together* the separate sections, so as to produce tensioning of the wires over the box corners thus producing strength both longitudinally and laterally. It was *the patentees' fundamental difference in the order of assembly and methods of construction that contributed most to the invention over Rosback*".

Apparently Judge LINDLEY agreed with Judge RAYMOND upon the *fact* that Inwood and Lavenberg made a distinctive advance; nevertheless, Judge LINDLEY proceeded along a line of reasoning different from that of Judge RAYMOND, and decided, in the face of the facts found as just quoted, that Inwood and Lavenberg's machine was merely obvious and non-inventive. We shall discuss Judge LINDLEY's reasoning later.

The Court of Appeals for the Sixth Circuit, in the opinion by His Honor Judge DENISON, found the facts to be much as stated by Judge RAYMOND and Judge LINDLEY as just quoted. Judge DENISON's opinion said (what no one has denied) that:

> "There is no doubt that they [Respondents] *created a new industry*—the wirebound box business". (37 Fed. (2nd) at 832.)

Then after discussing the prior art Rosback machines, of which Judge DENISON said they "represented the highest development in the [prior] art; and with them comparisons should be made", Judge DENISON said further (*ibid.* at p. 833):

> "Inwood and Lavenberg discarded this [Rosback] plan, and went back to the manual art, to begin again the search for a satisfactory *automatic* result. They took the so-called preformed cleats, which every carpenter had always used in making wooden boxes. They beveled the ends of these so that the final result would be a miter joint. They assembled these preformed cleats—usually eight, two rows of four each—with beveled edges down and spaced apart a trifle, as desired, in an assembling or holding frame which they called a workholder, and on which also they placed in

position the side material, which might be a continuous strip of veneer or might be four separate suitable sheets. The workholder thus laden was then placed upon the endless carrier, and, wire being supplied, it was fed under a stapling mechanism, and the bank delivered *as a finished product.* The assembled elements thus received treatment in a *single automatic machine,* while Rosback had submitted them after assembly to two successive machine processes in separate machines.

"If reference were to be had only to the paper art, showing the [Rosback] machines above mentioned, we might, for the purpose of this opinion (although we are not prepared to do so otherwise), assume that the patentees' combination of the old material feeding, wire feeding and stapling mechanism with the old preformed cleats, would not involve invention; but in this case there is an *undisputed history of the practical art* which, in our judgment, makes that conclusion impossible".

Following the excerpt just quoted, Judge DENISON discussed the history of attempted development preceding Inwood and Lavenberg (*ibid.* at p. 833). Finally Judge DENISON said (*ibid.* at p. 834):

"Seldom does a record show such a demonstration of the practical value of what seems like a simple change. The preformed cleats were there, various workholders for temporary assembly were familiar to all mechanics, and these things had been at hand all this time; yet during ten years of effort by capitalists and inventors and the expenditure of large amounts of money Stephens, Uhri, Rosback, and Flora, and indeed for a time Inwood, had not seen what is now said to have been always obvious. Their conduct is far more convincing than the present opinion of some expert, who thinks that he would not have been so stupid.

"It is not a new simile to say that the progress of an art is travel along a road. When Rosback, Uhri, *et al.*, as road builders, saw that *an automatic machine* was the point they must reach, familiar preformed cleats, in connection with some temporary assembling means, presented the direct road to that terminal, and to take that road must have been the first thought of every traveller; but they all believed that this direct road was so obstructed as to make passage impracticable, and so they undertook a troublesome detour, which *they never did succeed in opening and improving.* The public would not travel, and the whole road remained unused. For 10 years the builders tried to develop their detour, to make it a good road, but *failed.* Then these patentees found an effective, though simple, means of overcoming the obstacle, opened the direct road, and the detour was abandoned. It would be a bold critic who would say that all the older builders were incompetent, because the way to clear the road had always been obvious.

"The practical advantages of the change were that the cleats could be preformed in quantities and very cheaply; that short and otherwise waste pieces could be used; that the second operation for mitering the cleats [in the Rosback practice], with all its time and expense, was avoided; that other union forms than miters could be used (as mortise and tenon); and that the inventors also avoided one of the chief troubles of the old machines, *viz.* that in step-mitering the ends from the solid cleat and in partially slitting the continuous sheet, the knives were continually cutting through the sheet in spots and cutting into the wires, injuring the product and dulling the knives. There was a saving of 75 per cent. in the cost of the lumber for the cleats, and this, with the savings in time, labor, and repairs, created a large and successful business out of *what had been for 10 years a failing struggle.*

> We are convinced that the advance step taken by these patentees came well over into the field of patentability, as defined in the leading cases, too familiar for exhaustive citation, and as applied to a new association of old elements leading to a new result".

In all three of these opinions by Judge RAYMOND, Judge LINDLEY and Judge DENISON, the findings of fact indicate emphatically the high merit of respondents' *machine invention* of the patent in suit.

Judge RAYMOND pointed out that in the prior art:

> "The substantial obstacles encountered, however, were the impossibility of automatic or partly automatic production", etc.

Judge LINDLEY said that Rosback's "manner and method of construction proved impracticable. . . . It was the patentees' [Inwood and Lavenberg's] fundamental difference in the order of assembly and methods of construction that contributed most to the invention over Rosback".

Judge DENISON's opinion teems with fact-findings indicating the distinction of the invention of Inwood and Lavenberg, who, as His Honor said, "created a new industry —the wirebound box business".

Obviously, as pointed out by Judge RAYMOND, the "impossibility of automatic or partly automatic production"—*i. e.*, the lack of a successful machine—presented, in the prior art, an insurmountable obstacle to the establishment of a business in making the wirebound boxes. The boxes must be produced by the millions; any hand manufacture or impracticable machine production would be prohibitive. As Judge DENISON said (37 Fed. (2nd) at p. 836):

> "It is clear that the overlapping edge box could not have been a market success unless it had been the product of an *automatic machine*, which enabled it to be made cheaply."

There is not the slightest implication in any of the opinions, nor any word of evidence, to dispute the fact that Inwood and Lavenberg, under the patent here at bar, produced *the very first machine capable of commercial production of wirebound boxes.* Without that machine, the new industry would not have been started. The ten years of fruitless effort by the Rosback inventors would have eventuated in an abandoned experiment.

Thus, at least as regards the finding of important facts (which, in any event, are undisputed), there has been substantial unanimity, in all the written opinions, tending strongly in favor of Respondents' patent.

The dramatic contrast between the ten years of fruitless endeavor by the Rosback inventors, and the immediate success of the Inwood and Lavenberg invention, is indicated by the fact that there had been no wirebound box business prior to Inwood and Lavenberg, while immediately following their invention of a practical machine, the extraordinary growth of the business was as shown in the following table taken from the testimony (R. Vol. I, p. 190):

Date	*Boxes*	*Value*
1906	60,008	$10,339.27
1907	658,471	150,662.05
1908	1,903,881	326,974.12
1909	4,032,129	712,008.32
1910	5,609,095	905,577.58
1911	5,628,983	865,318.05
1912	5,698,852	857,685.86

Date	*Boxes*	*Value*
1913	7,652,728	1,060,060.70
1914	9,652,604	1,314,426.20
1915	10,813,375	1,578,792.14
1916	18,421,363	2,863,977.00
1917	26,854,735	5,232,600.00
1918	34,957,410	9,121,963.00
1919	26,922,298	8,084,435.00
1920	28,505,562	11,756,285.00

The showing of this table, against the futile background of the Rosback prior art, demonstrates conclusively that Inwood and Lavenberg contributed an extremely valuable advance that would have been impossible except for the invention of a new and efficient *machine*.

After Inwood and Lavenberg's machine invention had been completed, and used to produce the Rosback type of blank having the scored veneer side-material,—Inwood and Lavenberg also invented a superior blank and box in which the *side-material* was made in four preformed sheets, each for one side of the box. These four sheets were so related that at each box corner the margin of one sheet would overlap the edge of a neighboring sheet to produce a desirable "lap-corner" closure. Doubtless, this improved box contributed somewhat to the success of the industry.

The fact remains, however, that the highest degree of excellence in the box structure would have been useless, unless it could be produced automatically upon an efficient *machine*. We refer to the invention of the improved box at a later point. For the present we dismiss the subject with a quotation from Judge DENISON's opinion (37 Fed. (2nd) at 836):

> "Undoubtedly, for most purposes, this overlapping edge box was an improvement over the continuous side [Rosback] box. The public favor which has been mentioned was doubtless due, in some measure, to this overlapping edge feature. *Non constat* that the older form would not have been accepted on the market with favor. It is clear that the overlapping edge box could not have been a market success unless it had been the product of an *automatic machine*, which enabled it to be made cheaply. To give the credit for success to the preferred form of the product and to ignore the means of its manufacture, *which means alone made the success possible*, is an inference which we cannot reach. Perhaps the credit should be divided; enough remains to be persuasive of invention in the machine."

It remains to be seen that the conclusions stated by Judge RAYMOND and Judge LINDLEY, adverse to the machine patent, are not consistent with each other; are not consistent with their fact-findings; and do not justify the implication of Petitioner's brief that there is a substantial weight of concurring authority against the patent in suit.

Again we deal with the opinions in chronological order.

In Judge RAYMOND's opinion confusion clearly appears because of the complexity involved in considering all four of Respondents' patents on the machine, the workholder, the method and the specific improved form of box.

Judge RAYMOND first deals with the method patent saying (24 Fed. (2nd) at 873):

> "An important question here presented is whether the essential elements of that [Inwood and Lavenberg] method of production are now open to public use by reason of the expiration of the box patent, or whether,

by reason of the grant of the method patent nearly ten years later, plaintiff still has the right to enjoy for a considerable period the exclusive use of the method disclosed in the method patent".

Answering this question, Judge RAYMOND cited *Webster Electric Co.* v. *Splitdorf Electric Co.*, 264 U. S. 463, to the point that Inwood and Lavenberg had delayed too long in filing their patent application on the method (though it was a legitimate divisional application based on the early-filed machine application); and then Judge RAYMOND said, (*ibid.*, p. 874):

> "In this case, therefore, the product patent having expired, the public has become entitled to produce the box by the method disclosed by the patent".

And in His Honor's opinion, this sufficed to destroy Respondents' method patent.

Dealing with the machine patent, Judge RAYMOND said (*ibid.*):

> "It appears to the court that, as soon as the method *disclosed in the box patent* was divulged, it became obvious to those familiar with the prior Rosback inventions that, in order to produce the Inwood and Lavenberg box blank, it would be necessary only to add the extra pushers called for by the extra pieces of a different form of blank, and that so to do was a matter merely of the exercise of ordinary mechanical skill. The machine used by defendant is nothing more than the Rosback machine with additional pushers placed on the feed chains. Consequently there is *no infringement* of the method patent, nor of the machine or work-holder patents".

Thus, in spite of the co-pendency of patent applications on the specifically different inventions of box, method and machine, Judge RAYMOND invalidated the method patent, first upon the technical ground of delay in filing the divisional method application, under the Splitdorf decision (*supra*), and then because of prior expiration of the box patent. But the whole purport of His Honor's opinion indicates that except for these technical reasons, the method would have been validly patented.

And coming to the machine invention, His Honor found that it became obvious "as soon as the method disclosed in the box patent was divulged". And this in spite of the fact that the machine invention was made and used to make the Rosback box before the lap-cornered box of the Inwood and Lavenberg box patent was ever thought of.

This is an example of the mutual destruction of the patents due to confusion of the issues, referred to in Judge DENISON's opinion as quoted (*ante*, p. 4).

In Judge LINDLEY's opinion, the invention of a new *box structure* was Inwood and Lavenberg's only patentable contribution,—in spite of the undisputed facts (1) that the Rosback prior art box, as a product, was a commercial box; (2) that for ten years the Rosback inventors were unable to produce a practical *machine* to make that box, while Inwood and Lavenberg produced the highly successful machine to make that box and others, upon which the industry was founded; and (3) that the box structure (covered in the Inwood and Lavenberg re-issue patent No. 12,725) was not invented until some months after the new Inwood and Lavenberg machine had been reduced to practice in making the Rosback box (R. Vol. I, p. 453).

Judge LINDLEY's opinion said (25 Fed. (2nd) at p. 364):

> "We are of the opinion, however, that the entire story of the appellee's invention is told in this reissue patent [on a new box structure], and that the solutions of the problems demonstrated in the other three patents were obvious, and involved the exercise of merely ordinary mechanical skill".

So, while Judge RAYMOND indicates that the method invention might have been validly patented, except for supposed technical delay and the expiration of the *box* patent, Judge LINDLEY finds that the method was wholly unpatentable because merely obvious and involving only mechanical skill.

Referring to the machine, Judge LINDLEY said (*ibid* at p. 365):

> "When the patentees evolved their scheme of starting with preformed cleats and sides, their important problem for successful construction naturally involved the assembly of the various elements in their proper form, in order that efficient manufacture might proceed. In making a successful product under their invention, which depends largely upon method of construction and order of assembly for its novelty, *they were confronted with the problem of so assembling and retaining the parts in their proper places during the period of construction as to be able to manufacture at a commercial profit.*"

Here, Judge LINDLEY clearly recognized the problem which the Rosback inventors had been unable to solve during ten years, but which Inwood and Lavenberg solved with great success. Nevertheless, Judge LINDLEY's opinion continues:

> "The workholder expresses the natural adaptability of the mechanic's mind to the solution of this problem. The machine in which the workholder is to be placed was equally obvious. The prior art in machines taught patentees how to make a machine which would staple together the various elements of the box."

Thus the machine patent was invalidated by Judge LINDLEY upon the teachings of the prior art of the Rosback inventors (who had totally failed), while Judge RAYMOND invalidated the machine patent because of the assumed effect of Inwood and Lavenberg's own method which, once invented, was supposed to have, in some way, undermined the machine invention.

And all these conclusions were in the face of the facts, evidently accepted by both Judge RAYMOND and Judge LINDLEY, that the Rosback inventors had wholly failed in their attempts at "automatic or partly automatic" production of boxes, while Inwood and Lavenberg produced the first successful machine which was the primary essential for the foundation of the industry.

On petition for re-hearing, in the Court of Appeals for the Seventh Circuit, there was a further *Per Curiam* opinion containing the following description of Inwood and Lavenberg's work (25 Fed. (2nd) at 365):

> "They next modified the machine they had designed, so that it would utilize the workholder, and after such modification the state of their art was that they had *modified Rosback's order of manufacture* to the extent of preforming the cleats, designed a workholder to use for such modified method, and adapted their machine to utilize that workholder. But as yet no new box had been made; as yet no one had done more than change Rosback's long cleat to four short ones; or, in other

words, cut the cleats before they were attached to the long veneer sheet, rather than afterwards, make a workholder to hold the separate cleats, and adapt their non-inventive machine to such workholder.

"Appellants [Respondents] contend that it is apparent that this new method, workholder, and machine were not obvious improvements from the fact that for years the delvers in the art had endeavored to find a practical machine to make Rosback's boxes. The answer is that, *the moment the long cleat was discarded and supplanted with short ones*, the workholder and machine readily appeared as the logical solution of the mechanic to the problem confronting him. We can not believe that in this situation invention was achieved, or that anything more than the exercise of mechanical skill was involved."

This same reasoning was adopted by His Honor Judge KNAPPEN in the dissenting opinion in the Sixth Circuit Court of Appeals (37 Fed. (2nd) 842). Judge KNAPPEN quoted with approval the paragraph last quoted above from the *Per Curiam* opinion of the Seventh Circuit Court of Appeals. And this in spite of the fact that Judge KNAPPEN's opinion said (*ibid.*):

"It remained for Inwood and Lavenberg to discover that the use of such preformed separate sheets and pre-mitered cleats *in machine manufacture* was practicable."

We refer further to Judge KNAPPEN's dissent in our discussion of other aspects of the case.

It appears, therefore, that the Seventh Circuit Court of Appeals and also Judge KNAPPEN turned their decisions upon the discarding of the long cleat of Rosback and sup-

planting it with short ones; and gave to that concept the effect of destroying patentability, not only in the method, but also in the invention of mechanical means for relatively positioning detached, preformed cleats. That is to say, the use of the preformed cleats was assumed to be obvious, and the mechanical means for positioning them to be equally obvious,—in spite of the fact that ten years of futile effort elapsed before Inwood and Lavenberg injected these ideas into the art.

As against such a conclusion, Judge RAYMOND had said (24 Fed. (2nd) at 874):

> "Careful consideration of the evidence results in the conclusion that neither the so-called modified Rosback method, *nor any other method* suggested for producing the box, are commercially practical, though they may be theoretically possible."

And it was this character of useless Rosback method, that had been under experiment for ten years without success, which Judge LINDLEY and Judge KNAPPEN thought should render Inwood and Lavenberg's machine merely obvious and within mechanical skill.

In finding that the Inwood and Lavenberg machine invention was obvious in view of Rosback's work, Judge LINDLEY, and the *Per Curiam* opinion of the Seventh Circuit Court of Appeals, and also Judge KNAPPEN, evidently ignored what clearly appeared to Judge RAYMOND that, throughout the experiments of the Rosback inventors, they had always encountered "*the impossibility of automatic or partly automatic production*" of the boxes.

Furthermore, the Court of Appeals of the Seventh Circuit and Judge KNAPPEN overlooked an extremely important historical aspect, in supposing that the machine inven-

tions became obvious "the moment the long cleat was discarded and supplanted with short ones" (25 Fed. (2nd) at 363).

From the very beginning of the Rosback experiments—a decade before Inwood and Lavenberg entered the field—the practice was devoted to the production of the rigid blank having the long cleat strips thereon, and then producing "short ones" by severing and step-mitering the long cleat strips. The result was the eight separate cleats stapled to the side-material and wires and in foldable relationship, exactly as the blank produced on the Inwood and Lavenberg machine had eight separate cleats stapled to the side-material and wires.

The concept of eight separate cleats in foldable relationship upon the finished blank was always present in fact before the Rosback inventors, and represented the sole objective of their unsuccessful attempts to develop a commercial machine.

It was the very object of the Rosback step-mitre machine to "discard" the long cleat strip, as such, and to "supplant" it, so to speak, with the severed short cleats. For ten years they failed to perceive either (1) that they might *start* with eight separate cleats, instead of producing them for the first time as the *final* step on the step-mitering machine; or (2) that if they *started* with the eight preformed cleats, they would find it possible to hold them *mechanically in foldable relationships* while those relationships were being perpetuated by the attachment of the side-material and wires.

If the use of the preformed cleats and the mechanical positioning thereof had been obvious, as assumed by the Seventh Circuit Court of Appeals and Judge KNAPPEN, it is incredible that the Rosback inventors would have strug-

gled for ten years with their complex *two*-machine practice, when the adoption of the supposed obvious expedient would have led them to immediate success, just as occurred when Inwood and Lavenberg first produced their machine of the patent in suit.

The foregoing supplementary statement of the case has demonstrated, we contend, that there is no consistent weight of authority against the patent in suit. On the contrary, the outstanding facts, recognized in the opinions adverse to the patent, should enforce the conclusion that the Inwood and Lavenberg machine invention worked a revolutionary change in the art and turned hopeless failure into immediate success.

ARGUMENT.

There are only two substantial issues at bar:

1. Were Inwood and Lavenberg required to exercise invention,—something beyond mere mechanical skill,—when they devised a blank-machine to position and wire together preformed, detached cleats in foldable relationships, such that, when wired, the cleats would fold into box form and the immediate product of the single blank-machine would be a wirebound, cleated, foldable box-blank?

2. Has Petitioner infringed claim 25 of the machine patent in suit, by appropriating the subject-matter of that claim?

Validity of the Patent in Suit.

Petitioner makes no claim that the Inwood and Lavenberg machine, or its equivalent, was ever known or used in

the prior art. As found by His Honor Judge DENISON (37 Fed. (2nd) at 832):

> "As to the validity of the machine patent, the issue is clearly one of invention. Anticipation, as that word is used to differentiate from lack of invention, is not claimed."

In other words, Petitioner's attempted defense must rest upon the assertion that it was an *obvious mechanical expedient* for Inwood and Lavenberg to discard the teachings of Rosback; to *start* their new practice with eight preformed cleats; to provide mechanical devices for positioning the detached cleats in foldable relationship; and thereby to produce the finished foldable blank upon a *single* machine, instead of requiring the two successively acting machines of the Rosback practice.

There can be no question that Inwood and Lavenberg rejected the Rosback teachings. This was found by Judge RAYMOND, Judge LINDLEY and Judge DENISON. It is undeniable that Inwood and Lavenberg devised the first practicable blank-machine for producing foldable blanks. But, Petitioner asserts, in effect, that feat did not involve invention over the rejected Rosback teachings, however futile the latter were.

The proved historical facts necessarily defeat Petitioner's contention of non-invention. As Judge DENISON said (37 Fed. (2nd) at 833):

> "* * * in this case there is an undisputed history of the practical art which, in our judgment, makes that conclusion [of non-invention] impossible."

We deal first with this question: Was it an obvious and non-inventive thing for Inwood and Lavenberg to do, when they *started* with preformed cleats and positioned

them mechanically on the blank-machine, as contrasted with the Rosback practice of starting with the long cleat strips and *ultimately* severing them to form the eight cleats on the step-mitering machine?

For convenient reference we show on the opposite page:

Fig. 1, a Rosback Preliminary Rigid Blank, the product of his blank-machine (see Rosback patent No. 623258, R. Vol. III, p. 1426).

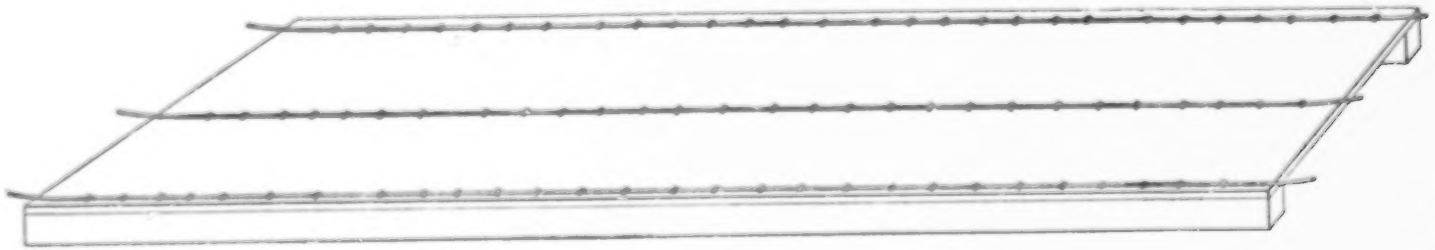
Fig. 2, a Rosback Foldable Blank, the product made by treating the rigid blank of Fig. 1 upon the Rosback step-mitering machine; and also the product produced by the earliest form of the Inwood and Lavenberg single blank-machine built according to the patent here in suit.

These views show the Rosback bent-veneer type of blank which the Rosback inventors tried for ten years to manufacture commercially. Inwood and Lavenberg designed their first new blank-machine for making the same Rosback foldable blank of Fig. 2; and the first form of that machine was put to use some weeks *prior* to the invention of the improved form of lap-corner box which was the subject of the Inwood and Lavenberg reissue patent No. 12,725 (R. Vol. II, p. 809). This *after-invented* lap-corner box, and the patent thereon, were given an extraordinary retroactive effect upon the machine and method patents by both Judge RAYMOND and Judge LINDLEY; we shall discuss this subject at a later point.

Referring to Fig. 2 of these drawings, it represents equally the finished Rosback blank produced by the two-machine practice, and that emerging as the immediate product of the Inwood and Lavenberg single blank-machine. However it was made, the blank had eight separate step-mitered cleats. Each cleat was positioned in

FIG. 1 ROSBACK PRELIMINARY RIGID BLANK

(TAKEN FROM FIG. 34 OF ROSBACK PAT. #623258)



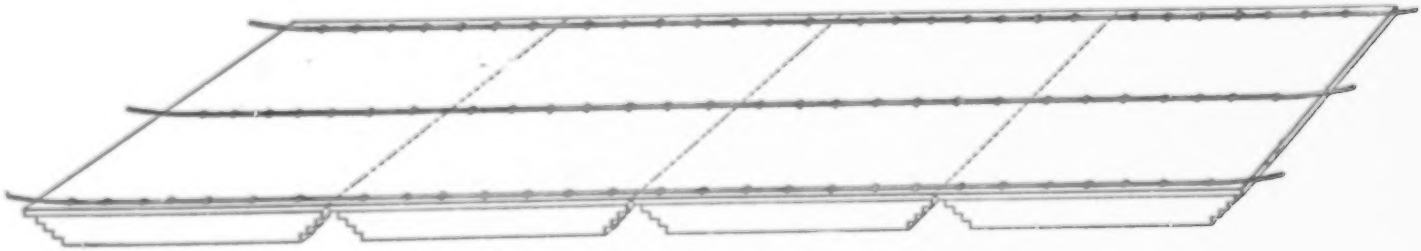


FIG. 2 ROSBACK FOLDABLE BLANK

(TAKEN FROM FIG. 35 OF ROSBACK PAT. #623258)

foldable relationship to its neighbor or neighbors. When the blank was bent into four-sided box-form the cleat-ends mated with each other. Whether the blank was produced on the Rosback two machines or the Inwood and Lavenberg one machine, the finished box incorporated the cleats in the same relationships.

The Rosback inventors, for ten years, were incessantly motivated to produce mechanically *eight separate cleats in foldable relationship,* attached to side-material and wires. They needed only to devise a practicable machine, capable of producing the boxes commercially, in order to found a profitable industry.

Inwood and Lavenberg sought exactly the same objective, but they devised new mechanical means for making the same blank, and thereby achieved success where the Rosback inventors had wholly failed.

Although continuously intending to produce eight separate cleats, and always conscious of the necessity to co-ordinate the eight cleats in foldable relationship,—the Rosback inventors nevertheless persisted in the *two*-machine practice, and in producing the individual cleats and their foldable relationships by a final *cutting* operation upon the step-miter machine.

There is nothing whatever in Petitioner's case or argument, or in the opinions adverse to Respondent's patent, which could account for the failure of the Rosback inventors to abandon their complex practice and machinery, in favor of Inwood and Lavenberg's radical simplification, *if to do so had been an obvious expedient* within the reach of mechanical skill.

As Judge DENISON's opinion points out, separate cleats, *per se,* had been long known, even prior to the Rosback inventors. The latter were continuously endeavoring to

produce separate cleats. Why did they neglect to *begin* their practice with the separate cleats and the mechanical positioning thereof on a blank-machine, when to do so would have achieved the immediate and great success which rewarded Inwood and Lavenberg?

The answer to this question is demonstrated by the experience of Inwood and Lavenberg themselves, and their skilled consultants, when the former first proposed to preform the cleats and position them mechanically in foldable relation on a blank-machine. Everyone thought the scheme *could not be worked mechanically.*

Inwood and Lavenberg joined the procession of box-machine inventors early in 1904. At the outset of their work they attempted to improve the old Rosback machines for use in the two-machine practice, making the rigid preliminary blank on the first machine and then cutting the cleats on the step-mitre machine (R. Vol. II, pp. 772, 808, 809, 817). Thus they began by adhering to the ten-year-old Rosback tradition which, of course, was the obvious thing to do.

Presently, however, they made their fundamental and revolutionary invention which was destined to solve the problems that had baffled the Rosback inventors for ten years. They conceived the idea of preforming the cleats and mechanically positioning them upon the blank-machine, and then perpetuating their relationships by attaching the binding wires.

But this invention was not easily arrived at; it followed serious misgivings as to its practicability. At first the idea was flatly rejected.

The early consideration of the preformed cleat practice was testified to by Inwood himself, without the slightest

contradiction. It is noteworthy that Inwood's testimony (stipulated into this record) was given in November, *1905* (R. Vol. II, p. 756), in litigation involving simply the title to the patents now in suit. He was testifying nearly ten years before the grant of the patent in issue. The present questions of validity and infringement were not involved in that suit. There was no occasion for Inwood to color his now pertinent testimony. In fact his statements stand undisputed.

Regarding the first proposal of the preformed cleat practice, Mr. Inwood testified as follows (R. Vol. II, p. 773):

> "Q. Let me ask you again; I don't know that you understood my question a while ago; perhaps I did not understand your answer. Was there any discussion between you and Mr. Lavenberg prior to the time [May 27, 1904] that you gave the final order for the machine to the St. Joe Iron Works with regard to step-mitering the cleats *before* they were fed into the machine with the veneer [*i. e.*, the side-material]?
>
> "A. Well, yes. The idea had been suggested of doing this, and this idea was suggested to Mr. Brown on that visit [May 21 to 24, 1904] of step-mitering the cleats, but was *disregarded as being impracticable or impossible of operation,* and while it came up two or three times, was always *passed over as impracticable.*"

In fact, considerable thought must have been given preliminarily to the possibility of preforming and mechanically positioning the detached cleats. As early as May 6, 1904 (see drawings opposite page 776, Vol. II of Record) Inwood and Lavenberg had already planned a former or workholder to receive the preformed cleats and position them; they had described the workholder to one Healy (the man who had

controlled the Rosback experiments for years past) about May 12, 1904; and to Brown (a machine expert of the St. Joe Iron Works) about May 25, 1904; all as shown by an inscription (attested by a notary public on June 15, 1904) on a drawing made by Inwood, dated June 14, 1904, showing the first form of workholder (see reproduction of the drawing, R. Vol. II, p. 776). This drawing shows all of the essentials of the mechanical positioning devices for holding the preformed cleats in foldable relationship. In other words, it represents a disclosure of Inwood and Lavenberg's fundamental mechanical invention, involved in cleat positioning, requiring only to be used with the conventional wire-attaching mechanism to form the organized machine of the patent now in suit.

In spite, however, of this conception and disclosure, early in May, 1904, of the mechanical workholder for the preformed cleats (as later actually used), the practicability of that mechanism was so *unobvious* that the new idea was rejected as "impracticable or impossible of operation". *Subsequently to the disclosure*, we find Inwood, as late as May 27, 1904, ordering the first form of so-called "St. Joe machine" which was simply a supposed improvement upon the old Rosback blank-machine and was intended to produce the Rosback *rigid blank*. Thus, even after designing a workholder for positioning the detached cleats, the plan was considered impracticable; and Inwood and Lavenberg themselves persisted in the Rosback tradition, at least temporarily (R. Vol. II, p. 772, 773).

This evidence—wholly undisputed—is of the utmost importance. Inwood testified in the title suit, in 1905, when his recollection was fresh. He showed that the cleat-positioning workholder had been considered and discussed but had been several times rejected as "impracticable or im-

possible of operation" by several men skilled in the art; not only by Inwood and Lavenberg, but also by Healy who had worked in the art for about ten years (R. Vol. II, p. 775), and by Brown, a mechanical expert connected with the machine builders, the St. Joe Iron Works (R. Vol. II, p. 773).

For ten years, the Rosback inventors had tried to produce the eight-cleated foldable blanks upon the step-miter machine by severing the long cleat strips as the *final* step. Then Inwood and Lavenberg had suggested producing the same foldable blank by preforming and positioning the cleats and wiring them together. But the idea was rejected as impracticable. This is striking historical *proof* that this new mechanical concept was not obvious nor within mechanical skill. On the contrary, those mechanically skilled thought it *obvious* that the idea would *not* work.

It is noteworthy that Inwood had expressly characterized the idea as "impracticable or *impossible of operation*", which means that the idea could not be carried out *mechanically* as they then thought.

As first proposed, the plan of preforming and positioning the cleats was evidently indicated as a method of procedure. It was that *method* which was considered mechanically "impossible of operation", according to the undisputed testimony. Hence this *evidence* explicitly rebuts Judge RAYMOND's conjecture that the Inwood and Lavenberg *machine* emerged *obviously*, once the method had been disclosed.

When the method was first suggested, the Rosback type of machine for making the rigid blank, having pushers for propelling the long cleat strips and side-material through the machine, had been in the art for many years and was

well known to Healy and Inwood and Lavenberg (R. Vol. II, pp. 770, 772), and to Brown who had been consulted in the attempts to make the Rosback machines work (R. Vol. II, pp. 769, 772). In spite of their knowledge of the Rosback machine and of the ultimate eight-cleated blank, and in spite of the repeated suggestion to preform and position the cleats, the idea was still rejected as impracticable or "impossible of operation" by all of Healy, Inwood, Lavenberg and Brown.

It was not obvious to any of them, though skilled in the art, that preformed cleats could be positioned mechanically in any successful way, whether by adding "the extra pushers" suggested by Judge RAYMOND, to the Rosback machine, or otherwise. The total unobviousness and the supposed impracticability of doing any such thing is established as *historical fact*. It is not open to speculation. There is no dispute in the evidence as to these facts, nor is there the slightest reason or excuse for failing to accept those facts.

Returning now to the question: Why the Rosback inventors did not adopt the preforming and mechanical positioning of the cleats, when to do so would have turned failure into success? The reason is clear.

Even at the maturity of prior art experience, when Inwood and Lavenberg entered the field, the idea of preforming and positioning the cleats was not only *un*obvious but was supposed "impossible of operation". It is easy to see, therefore, that the Rosback inventors, in spite of their long familiarity with the finished blank having the eight separate cleats in foldable relationship, must have believed all along (if they ever had the idea at all, which the record does not show) that they could not *start* with

eight preformed cleats and successfully *position them mechanically.*

In spite of their early rejection of the plan of preforming and positioning the cleats, the thought persisted in the minds of Inwood and Lavenberg and eventually led, within a few weeks following early May, 1904, to the machine of the patent now in issue. Mr. Inwood testified as follows (R. Vol. II, pp. 773, 774):

> "On the original order the plans and specifications for the machine ordered from the St. Joseph Iron Works did not provide for formers [*i. e.*, the workholder elements for positioning the preformed cleats]. The order was afterwards modified to use the former. By former I mean a workholder, which consisted of two long strips of channel iron of the right size to hold a cleat 15/16 by ¾. The purpose of this former was to hold the cleats on [and] the veneer in the proper position to be passed under the stapling machine to be stapled. Workholder would be in my judgment the best term.
>
> "Q. What did you and Mr. Lavenberg do, if anything, after the delivery of the specifications to the St. Joe Iron Works and the ordering of the machines [May 27, 1904] with reference to experimenting on the matter of having a former or workholder in the machine?
>
> "A. The discussion between Mr. Lavenberg and myself in regard to the practicability of the former occurred almost daily, from the time the machine was first ordered at St. Joe, and we began experimenting along that line *to test if the use of a former would be practicable.* We worked on this together, Mr. Lavenberg making wooden models of formers with which he experimented, and I made drawings during the time when the machine was ordered at St. Joe, until about

the twentieth of June, when we figured that we had the problem of a former solved."

These discussions "in regard to the practicability of the former" and the experimenting "to test if the use of the former would be practicable",—particularly in the light of earlier rejection of the idea as "impossible of operation",—must completely refute the supposition that the preforming and mechanical positioning of cleats was an obvious expedient and a mere matter of mechanical skill.

Mr. Inwood's testimony above quoted is amply confirmed by similar testimony of Mr. Lavenberg, who also gave his evidence in 1905 in connection with the old title litigation long before the present issues arose (R. Vol. II, pp. 807 to 810, 813, 814).

Likewise Mr. Healy testified, in the old title suit, on the subject (R. Vol. II, pp. 723, 724). The statements of Inwood and Lavenberg, on the one hand, and Healy, on the other hand, are not in precise agreement as to the date when the preforming and mechanical positioning of the cleats was first practiced. Mr. Healy places the date as "probably about the tenth or twelfth of May", 1904 (R. Vol. II, p. 724) while Inwood and Lavenberg agreed that it was in June, 1904 (R. Vol. II, p. 774). However this may be, it is definitely fixed that, after the initial rejection of the idea followed by persistent experiments, the concept of preforming and positioning the cleats had been fully developed early in June, 1904, at the latest. That concept underlay all of the machine development by Inwood and Lavenberg, and was the foundation of the patent here in suit.

At this juncture, Inwood and Lavenberg had accomplished the striking advance that was characterized by Judge Raymond as follows (24 Fed. (2nd) at 873):

> "It seems to the Court that plaintiffs' expert has correctly expressed the *improvement* of the Inwood and Lavenberg patents over the preceding Rosback inventions in the comparison hereinbefore quoted, namely, that Rosback taught the production of foldable relationships by *cutting*, while Inwood and Lavenberg taught the production of foldable relationships by *assembling and wiring together separate box elements.*"

And Inwood and Lavenberg's contribution was characterized by Judge LINDLEY thus (25 Fed. (2nd) at 364):

> "It was the patentees' fundamental difference in the order of assembly and methods of construction that contributed most to the invention over Rosback."

In the face of such findings as these, and of the testimony recently discussed, it seems incredible that the Inwood and Lavenberg machine could have been considered an obvious expedient emerging from the unsuccessful groping of the Rosback inventors who, during ten years, never produced practicable machines and were unable, for lack of adequate machines, to establish any business in wire-bound boxes. The instant success of the Inwood and Lavenberg machine and the rapid growth of the industry founded thereon, preclude any possible supposition that their accomplishment was merely that of mechanics.

Under the authorities, the facts in this case establish meritorious invention in the contribution of Inwood and Lavenberg entitling them to the broadest protection. It will suffice to cite a few of the pertinent cases.

In the *Barbed Wire* patent cases, 143 U. S. 275, the Supreme Court said:

"Under such circumstances courts have not been reluctant to sustain a patent to the man who has taken the final step which has turned failure into success. In the law of patents it is the last step which wins. It may be strange that, considering the important results obtained by Kelley in his (prior art) patent it did not occur to him to substitute a coiled wire in place of the diamond-shaped prong, but evidently it did not; and to the man to whom it did ought not to be denied the quality of inventor. There are many instances in the reported decisions of this court where a monopoly has been sustained in favor of the last of a series of inventors, all of whom were groping to attain a certain result, which only the last one of the number seemed able to grasp."

In the case of *Eibel Process Company* vs. *Minnesota & Ontario Paper Company,* reported in 43 Supreme Court Reporter, beginning at page 322, the Supreme Court held an improvement in a paper making machine to be inventive which consisted in merely changing the slope of the wire upon which the stock flowed by gravity, such change resulting in the production of good paper at an increased speed.

In its opinion on page 330 the court said, speaking through Mr. Chief Justice TAFT:

"The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy for the consequent trouble until Eibel, and the final fact that, when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious, and did involve discovery and invention."

Other cases to the same effect are: *Collar Button* case, 148 U. S. 560; *Grant Tire* case, 220 U. S. 428; *Flotation*

case, 242 U. S. 261; *Potts* vs. *Kreager*, 155 U. S. 609; *Expanded Metal Company* vs. *Bradford*, 214 U. S. 366; *Loom Company* vs. *Higgins*, 105 U. S. 591.

We believe that we have completely answered the first question propounded upon this argument (*ante*, p. 30) by showing that Inwood and Lavenberg exercised invention of a high order when they rejected all the prior art traditions in the wirebound box field, and produced their *single* machine which, alone in the art, successfully positioned preformed cleats in foldable relationships, wired them together to perpetuate those relationships, and thereby made, upon only one simple machine, the complete foldable box blank.

If the Court entertain any doubt upon this question, that doubt would be dispelled upon a full consideration of the historical background of the Inwood and Lavenberg inventions. Rather than encumber this brief with an elaboration of that history, we have assembled it, largely in the form of *verbatim* quotations from the testimony, for the convenience of the Court, in a separate volume which we have entitled "Appendix to Respondents' Brief". This Appendix tells the pertinent story fully as it appears in the record.

The history is succinctly stated in Judge DENISON's opinion (37 Fed. (2nd), beginning at page 832).

Infringement.

Defendant's machine is shown in the drawings, plaintiff's Exhibits 28 and 29 (R. Vol. II, opposite p. 1018), stipulated into the record (*ibid.* p. 1018); and in slightly different form in plaintiff's Exhibits 34 and 35 (R. Vol. II opposite pp. 1022 and 1024), proved by the witness Steele (R. Vol. II, p. 1022).

The Court is invited to compare Fig. 1 in each of plaintiff's Exhibits 28 and 34, with Fig. 1, for instance, of the workholder patent No. 1,128,144 (R. Vol. II, p. 1179,—original p. 1112). We suggest reference to this workholder patent because it shows the cleat positioning devices on a larger scale than shown in the machine patent in suit, but the same workholder constitutes a distinctive part of the specific machine disclosed in the machine patent. This workholder is shown in position in the blank-machine patent in suit, in Fig. 1* thereof (R. Vol. II, preceding p. 1193,—original p. 1122). The specification of this machine patent (*ibid.* 1197) refers to the "former or carriage" (*i. e.*, the workholding elements) as "the subject-matter of a cotemporaneous application filed October 14, 1904, serial No. 228,443" which was the application that eventuated in the workholder patent No. 1,128,144.

The clear equivalency of the respective machines of Inwood and Lavenberg, and Petitioner, and the distinctive characterization of both machines by the fundamentally important features which differentiate both from the prior art, are conceded by Petitioner's own mechanical expert, Mr. McElroy, whose testimony we quote at some length later on (*post*, p. 55).

First, however, the subject of infringement is so clearly discussed in Judge Denison's opinion, that we can do no better than to quote excerpts therefrom at this point. At first the text quoted deals partly with the question of patentability, but it lays the foundation for later consideration of infringement. Judge Denison said (37 Fed. (2nd), at 835):

> "What impresses us as the most serious challenge to patentability is the claim that, when the patent is

*Fig. 1 of the machine patent was evidently inadvertently omitted by the clerk in reprinting the record, but is reproduced on page 10 of Petitioner's brief.

tested by applying it to defendant's machine and giving it the construction necessary to make out an infringement, we see that all the patentees did was to take the Rosback machine and 'add some extra pushers'. By this is meant that the Rosback machine used two parallel conveyor chains; that each of these chains carried a projection or lug, which rested against the rear end of the long unsevered cleat, and so pushed the cleats and the attached side material through the machine; and that in defendant's final form of machine it has used these chains and these pushers, and in addition has only inserted in the chain, in selected locations, adjustable blocks, which project up between the ends of the preformed cleats, whereby each block serves to push the cleat which is immediately ahead of it.

"If this statement about 'adding some extra pushers' were correct, and were the whole truth, it would be unanswerable; but we think it neither exact nor complete. The pusher of Rosback *was a pusher and nothing else; it had no substantial positioning function;* the long cleat did not have to be positioned in any such secondary way; it was positioned with reference to the stapler by moving the chains. The defendant's machine uses on each side five of these devices which counsel now call pushers. They are all movable upon the chains for *positioning* purposes. The rear one, while it positions the rear cleat rightly with reference to the stapling which is to follow, may be said to have, directly or indirectly, a pushing function exercised upon all of the parts ahead of it. The next three of these devices have no necessary pushing function. The same pushing of all the cleats through the machine would follow if these three were of proper spacing size, but had no connection with the traveling chain; *e. g.*, were dropped in from above. They are *primarily positioners;* such pushing function as they have is *incidental to their positioning function* upon the traveling chain and is not necessarily inherent; they are essen-

tial to the positioning, but the pushing could be done in a variety of ways. As the device is altered to adjust it to a box of wider or narrower sides, all these devices except the first are changed accordingly. They firmly hold the cleats, as against any backward tendency, in their proper place relation to each other. *They pertain to and develop the thought of the inventors that the preformed cleats can be assembled and held in position during the stapling operation.* They would be an excrescence upon the Rosback thought of a single long cleat. When, in the Rosback machine, the four cleats later came into existence by severing, they were already positioned by the wire stapling, and the pushing operation had been finished. We can now see that at any time during their long efforts, Rosback *et al.* might have used the preformed cleats and assembled them upon the chains by these pushing, spacing, and holding blocks; but the art stood stationary all these years, while no one saw this solution. To put on 'some more pushers' and utilize them as positioners of preformed cleats, was very simple *after these inventors had pointed the way;* but that is not persuasive, and, as we later point out, defendant has also added holdbacks, as well as pushers."

Finally, in dealing with infringement, Judge DENISON's opinion said (37 Fed. (2nd) at 839):

"We come now to the matter of infringement: We take as typical of the claims sued upon No. 25, which reads as follows:

"'A machine for making box blanks comprising: Work-controlling means having cleat-positioning means to receive sectional [*i. e.*, preformed] cleats in parallel lines, and spacing means to space cleats endwise from each other in each line, preparatory to connecting said cleats in their spaced relation, said work-controlling means being arranged to receive side mate-

rial to be secured to said cleats; fastener applying means for securing binding means to the side material and cleats controlled by the work-controlling means; means for relatively feeding the work-controlling means and fastener-applying mechanism for securing said binding means across the intervals between said spaced cleats to secure them together in their spaced relations to form a foldable blank'.

"The mechanical difference between the form shown in the patent drawings and defendant's third form, is that the patentees assembled their cleats and positioned them in the workholder, which was independent of the moving conveyer, and then put the holder on the conveyor to be moved along.[7] In substance this workholder consists on each side of four pockets, in each of which a cleat fits closely enough to be held in true position while the cleat and overlying side material are passed under the stapler. The defendant has united its workholder and conveyer into one structure. It does this by attaching to the conveyer chain, at selected spots, five upstanding and outstanding blocks. The conveyer chain runs between side channel walls, which correspond to the sides of the patented workholder. These blocks therefore divide that channel space into four pockets, each of which holds and positions its cleat, as it and the side material are advanced under the stapler. If we place side by side plaintiff's workholder upon its conveyer and defendant's conveyer with its four pockets thus formed, each just before passing under the stapler, we see no substantial distinction in form or in operation, and only one distinction which merits notice. This is, that in the patented machine the dividing partitions positively position the cleats in both directions, that is, each partition bears against the cleat behind it as well as the one ahead; while in the defendant's structure the posi-

[7] "In specific form, their conveying means was a pinion-driven rack, on which the workholder rested."

tive contact of the positioner is only with the cleat ahead of it; there is no direct contact between this positioning block and the following cleat. This device is adapted for mortise and tenon joints and the cleats therefore have a side shoulder near the end, and the defendant's positioning block avoids the end of the cleat and reaches out to engage with this side shoulder. Thus there is between the extreme cleat ends a small free space, and hence possible slight forward motion of the cleat in its groove and away from its rear contact; there is practically a forward stop, though by less direct means. The positioning blocks carry upward lugs which act as spacers between the sheets of side material, and all four sheets must therefore move forward as a unit. For the cleats to slip forward against what might be made the normal retarding friction on four sides would not be very probable. Further, and as a more direct stop, the defendant's machine carries, as the patent does, means for exerting a spring side pressure against the cleat just as it comes under the stapler. This, in different forms, is called the clincher or the detent. It forces that cleat to exact position laterally and, either by projecting in front of the cleat or by side frictional effect, forces it back against the rear positioning block, and to exact position longitudinally. *Thus at the critical moment when the stapling is done, defendant's cleats are positioned as absolutely and as accurately as in the patented form.* If the normal retarding friction does not hold the cleat back against the block—as it may not against the intermittent motion—such a front detent stop would seem essential. As far as we observe, it was provided in all forms of defendant's machines.

"We find nothing either in the state of the art or in the specifications which requires a claim like 25 to be so limited to the use of a pocket which positively confines the cleat in all four directions as not to reach one which confines positively in three directions and

sufficiently for all practical purposes in the fourth. In any fair degree of equivalency, the call for 'spacing means to space the cleats endwise from each other' is met by the positioning means which defendant uses. This would be true even if the contemplated spacing were perfected only in each pocket successively, as it arrives at the only spot where perfect spacing is important. Though the patentees' advance step was such that its inventive character was plausibly challenged, yet after its patentability is determined, we see that it was the foundation of a large development in the art, and that it has a relatively pioneer status. Its claims are entitled to a fairly liberal scope.

"As to the suggestion that the conveyor chain form of defendant's machine is so different from the patented form that it should not be contemplated as intended to be reached, we may cite a paragraph of the specification which is here quoted in the margin.[8] It would almost seem that the draftsman had prevision of the specific form which defendant's infringement was to take, many years later."

The foregoing observations by Judge DENISON so clearly establish infringement, that little more need be added.

The controlling circumstance is this: For the first time in the art, Inwood and Lavenberg mechanically positioned eight detached cleats in foldable relationships, and wired them together to predetermine their manner of folding and their co-operation in the finished box. Inwood and Laven-

[8] "'We wish it to be understood that this invention is not to be limited to the use of removable carriages or formers such as described, and which are in the nature of adjuncts applicable to the wire feeding and stitching machine. Any means for positioning the separate parts of the blank-material in proper relation, as broadly defined in the claims, may be substituted for the formers, or carriages described, whether removable from and replaceable in the machine, or otherwise. In operating the apparatus shown and described, the carriages or formers may be fed into the machine one after the other in a manner to obviate the necessity of stopping the machine after each blank is stitched. In this way, an endless chain of cleat and sheet holders and positioners, with the material thereon, may be caused to pass between the bed frame and stapling devices, and keep the machine working to its fullest capacity.'"

berg succeeded in accomplishing these results upon a *single* blank-machine. This is precisely what Petitioner has done.

The same fundamental features which distinguish Inwood and Lavenberg's machine from the prior art machines, equally distinguish Petitioner's machine from the prior art. The distinctions from Rosback's machines which are common to Inwood and Lavenberg's and Petitioner's, are precisely those things which permit the eight preformed cleats to be so dealt with upon a single blank-machine that the immediate product thereof will be the finished foldable blank.

The same mechanical devices invented by Inwood and Lavenberg for positioning the preformed cleats find their clear equivalents in the devices employed by Petitioner for the same purpose; and in both cases the mechanical positioning of preformed cleats avoids the use of the complex Rosback practice that starts with the making of the rigid preliminary blank on one machine and then requires the second step-mitre machine to sever the long cleat strips to form the individual cleats.

So far as concerns the distinctive positioning of preformed detached cleats, it is futile for Petitioner to pretend that it follows any teaching of the Rosback inventors. The latter never positioned any detached cleat in foldable relation to another detached cleat. On the contrary, as found by all of Judge RAYMOND, Judge LINDLEY and Judge DENISON, Rosback produced cleats and foldable relationships solely by a final *cutting* operation which for the first time literally manufactured the cleats from a "raw-material" cleat strip fastened to a *rigid* blank, and created spaces between cleats by *cutting out* and removing an appropriately shaped section of the wooden strip. There was never a time in the

Fig 1

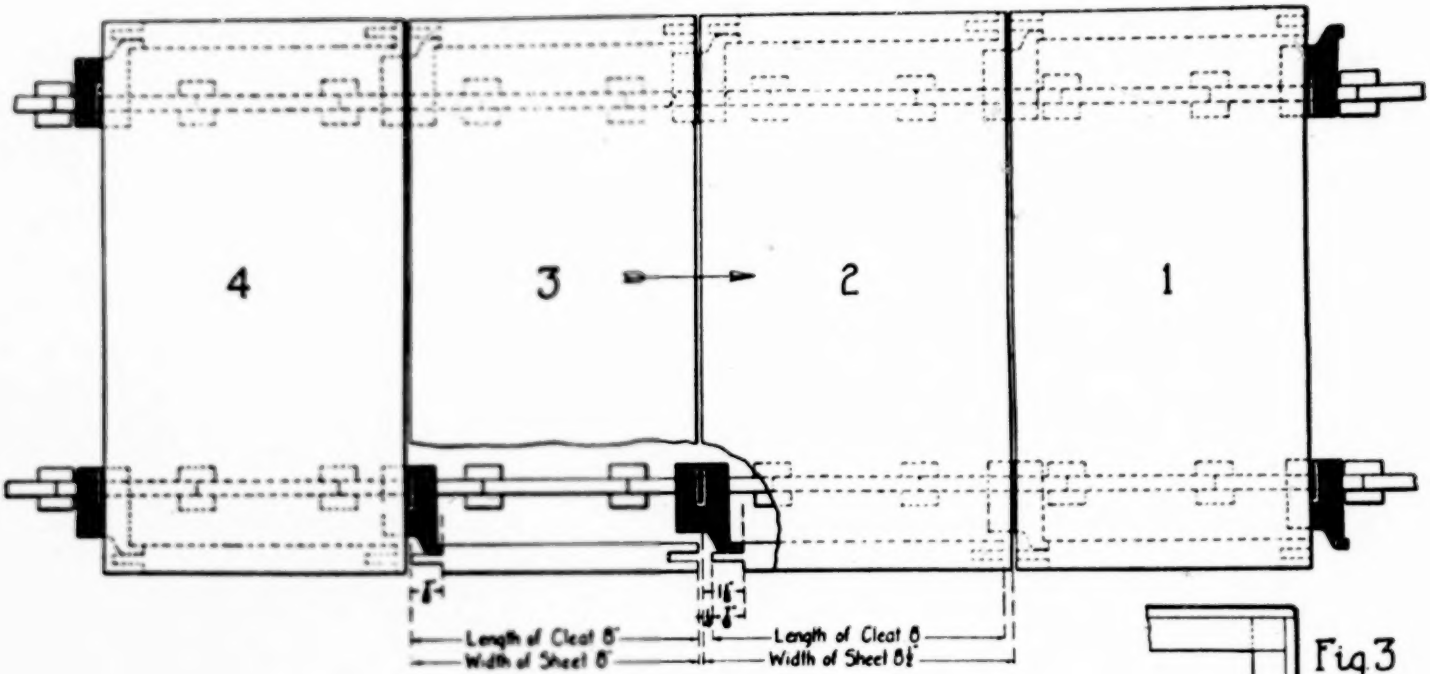
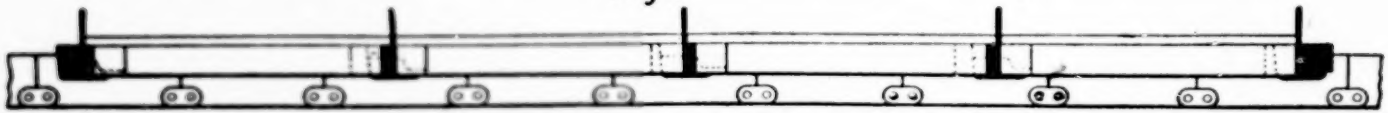


Fig 3

Fig 2



STIPULATED DRAWING OF
DEFENDANTS MACHINE - SHEET II

PLAINTIFFS' EXHIBIT NO. 29.

Rosback practice in which any mechanical device was interposed between one cleat-end and another following cleat-end, to assist in determining a foldable relationship between the two.

On the other hand, it is true of both the Inwood and Lavenberg machine and Petitioner's machine, that *a mechanical positioning* device is located at the rear end of *each* detached cleat to serve as a positioning stop against which the rear end of its cleat must rest to determine the exact position of that cleat in relation to all of the seven other cleats for the blank. Each of those stops performs an unique positioning function which was originated by Inwood and Lavenberg and never suggested in the prior art. The function of positioning detached cleats in foldable relationship was a brand new function. The means of performing the function were original with Inwood and Lavenberg. Petitioner's machine performs the same function for eight cleats by means of the same number of coordinated positioning stops located at the respective rear ends of the eight cleats. (See Stipulated Drawing of Defendant's Machine-Sheet II, R. Vol. II, p. 1018, which is reproduced on opposite page of this brief.)

There is a difference in detail between the respective machines of Inwood and Lavenberg and Petitioner. In the former, there is a positioning stop at the front end of each cleat as well as at the rear end; and the purpose of the front stop is to prevent the rear end of the cleat from escaping too far from contact with the primary rear stop. In Petitioner's machine, however, although a rear positioning stop is always present at the rear end of each cleat (as in the Inwood and Lavenberg machine), there are times when no contacting stop is present (when none is needed) at the advance end of the cleat.

Nevertheless, in Petitioner's machine, at the critical time, just before wire is applied to each cleat, a front positioning stop does engage the advance end of the cleat so as to hold its rear end in that contact with the primary rear positioning stop which determines the foldable relationship of the cleat to its neighbors.

In other words, it is true of both the patented machine and Petitioner's machine, that in preparation for the critical time when wire is attached to any given cleat, that cleat is engaged at both its rear and advance ends to insure its proper positioning in relation to all the other cleats of the blank. This is well illustrated in Respondent's drawing, showing the "pocketing" of cleats on Petitioner's machine (R. Vol. I, p. 106).

Additionally, it is true of both the Inwood and Lavenberg machine and Petitioner's machine, that each detached cleat is held with precision in a four-sided mechanical pocket, to determine exactly its position in relation to the other parts of the blank, as a preliminary to the attachment of binding wire to the cleat to render permanent its relation to the other parts. In the Inwood and Lavenberg machine, this four-sided pocket consists of the rear and front positioning stops and the two upstanding side walls of the channel iron between which the cleat rests. In Petitioner's machine the four-sided pocket is supplied by the rear positioning stop and the front stop (the so-called "detent") together with the upstanding sides of the channel iron between which the cleat rests.

In both cases, the four pocket elements serve the same purpose, individually and collectively.

And these pocketing elements have no similarity whatever to anything in the prior art Rosback machine wherein

there was no purpose of pocketing any detached cleat, or of positioning aligned cleats in foldable relation.

Petitioner attempts to hide behind a false front when it points out irrelevant similarities between its machine and the old Rosback blank-machine, while ignoring the distinctive *positioning* features, wholly lacking from the Rosback machine, which are the common characteristics of the Inwood and Lavenberg machine and Petitioner's machine.

To be sure, Petitioner's machine employs endless chains as a means of *transporting* the wooden parts past the stapling devices, and Rosback also employed endless chains for a like *transporting* purpose. On the other hand, Inwood and Lavenberg used a rigid frame-like workholder for transporting the assembled blank parts. But these transporting offices are wholly irrelevant to the Inwood and Lavenberg contribution. It is quite immaterial to both the form and substance of the patent in suit, how the parts are transported.

In the patented machine, the sole desideratum is that preformed detached cleats shall be positioned in rows and in foldable relationship, and then wired together, so that the immediate product of the machine shall be the finished foldable blank. It is immaterial whether the distinctive positioning elements for these purposes be mounted upon endless chains or upon rigid frames or otherwise. It is immaterial how these positioning elements and the positioned blank parts be transported through the machine, or whether they be transported at all. Once mechanically positioned, the eight detached cleats and the side-material might well remain stationary, while the stapling and wire attaching mechanisms travel from end to end of the assembly, without moving the blank materials at all. In fact,

just such an arrangement is shown in an improvement patent of Inwood (R. Vol. III, p. 1539).

The fact is that Petitioner has boldly appropriated Inwood and Lavenberg's cleat-pocketing elements, for dealing with each of the eight detached cleats, and has co-ordinated those cleat-pocketing elements with the mechanisms for attaching the wire to perpetuate the cleat relationships. This is precisely the subject-matter covered by Inwood and Lavenberg's patent and defined in claim 25 thereof. It is wholly beside the point whether these cleat pocket elements are mounted upon one or another of the specific forms of support, whether a flexible chain or a rigid bar.

It is unmistakably clear that the Rosback practices did not teach Petitioner how to position detached cleats, any more than they taught the Rosback inventors themselves how to position detached cleats during the decade when they were struggling for the mechanical production of wirebound boxes. The only teaching as to positioning detached cleats which Petitioner could have derived from any source, originated with Inwood and Lavenberg and is covered by their patent in suit.

Beyond question, if there is any validity at all in claim 25 of the patent in suit, Petitioner has infringed. Otherwise, Respondents' pioneer establishment of an industry upon the basis of the revolutionary machine invention, which made that industry possible, remains wholly without protection or reward.

If more be needed to convince that Petitioner has infringed,—has appropriated the very substance which distinguishes the Inwood and Lavenberg machine from the

prior art,—the direct admissions of Petitioner's own expert should suffice.

This expert, Mr. McElroy, testified thus on cross-examination (R. Vol. I, p. 509, *et seq.*):

"XQ. 95. In the *workholder patent* in suit No. 1,128,144, on page 3, beginning in line 52, and referring to the invention disclosed in that patent, the specification says

"'it provides *for the first time* mechanical means for controlling side material and separate individual cleats (which may be made of cheap waste material) preparatory to applying binding wires thereto by which to form finished foldable wirebound box blanks or blank sections.'

"Do you find the subject-matter of that statement just quoted *anywhere in the prior art*—I mean in the are prior to October 14, 1904 [the filing date of the Inwood and Lavenberg patent application]?

"A. Bearing in mind each and every limitation set out in the quotation, I *do not*.

"XQ. 96. Do you find the subject-matter of that quoted statement in the apparatus disclosed in the workholder patent in suit No. 1,128,144?

"A. Yes.

"XQ. 97. Do you find the subject-matter of that quoted statement in the *alleged infringing machine* of this defendant?

"A. Ignoring the question of the patentable novelty of the device as applied to defendant's machine, I answer *affirmatively*.

"XQ. 98. In the *blank machine patent* in suit No. 1,128,145, on page 1, beginning in line 10, the specification contained the following statement of the subject-matter to which the patented invention relates, namely:

"'• • • an organized machine comprising

fastener applying means, and work-controlling means, arranged to present to said fastener-applying means the parts of a blank for a box having side material and individual cleats * * * the fastener-applying mechanism and the work-controlling means co-operate to drive staples astride of binding wires, through side sheet material and into the individual cleats, the side sheet material and individual cleats being presented in the proper relations to receive the wire and staples.'

"Do you find the subject-matter described in the text I have just quoted, anywhere in the prior art?

"A. Understanding that the phrase 'individual cleats' applies to eight preformed cleats as distinguished from the two cleats subsequently cut up into eight, as shown in the Rosback series of patents, I *do not find that subject-matter in the prior art.*

"XQ. 99. Do you find that same subject-matter in the machine disclosed in the blank machine patent in suit No. 1,128,145?

"A. In what seems to me to be a practically inoperative device, yes.

"XQ. 100. Your theory as to inoperativeness, as I understand it, is that this workholder patent in suit does not show any mechanical means [workholder guides] for compelling the workholder to travel straight through the machine. Am I correct?

"A. That is one objection to its being an inoperative device.

"XQ. 101. What else have you in mind as to your theory of inoperativeness of that machine?

"A There is nothing shown to hold the side sheets B in place and the jar of the stapling mechanism would doubtless get the rear sheets out of their proper place.

[On this theory of inoperativeness McElroy later testified on cross-examination (R. Vol. I, p. 512):

"So far as my theory of inoperativeness of the blank machine of the patent in suit relates to the omission of means for guiding the workholder in a straight course through the machine, that alleged inoperativeness *could be cured in an obvious manner by any skilled mechanic familiar with the prior art.*"]

"XQ. 102. I shall return to your theory of inoperativeness at a later point, but first please tell me whether you find in the alleged infringing machines of this defendant the subject-matter of the statement which I quoted in XQ. 98.

"A. Ignoring the question of the possible patentable novelty of claims directed to such a structure as applied to defendant's machine, I answer *affirmatively.*

"XQ. 103. In the specification of the blank machine patent in suit No. 1,128,145, on page 4, beginning line 11, I find the statement that the invention of that patent

> " 'provides *for the first time* mechanical means for controlling side material and separate individual cleats, preparatory to applying binding wires thereto, in combination with means for foldably connecting said parts to form finished foldable wire-bound box blanks.'

"Do you find this subject-matter anywhere in the prior art?

"A. My answer is the same as to XQ. 98.

"By Mr. Janney: Namely, quoting said answer to XQ. 98 for convenient reference:

> " 'Understanding that the phrase "individual cleats" applies to eight preformed cleats as distinguised from the two cleats subsequently cut up into eight, as shown in the Rosback series of patents, *I do not find that subject-matter in the prior art.*'

"[By the witness): I find that same subject-matter in the machine disclosed in the blank machine patent

in suit, subject to my theory of inoperativeness, to which I have already referred. Stressing the reservation as to patentable novelty to which I have referred, *I find that same subject-matter in the alleged infringing machine* of this defendant."

The Court will note that in each instance, the broad statement of novelty quoted in the question expresses subject-matter which McElroy admits is *not found* in the prior art, but *is* found in the Inwood and Lavenberg and also in Petitioner's [defendant's] machine.

Mr. McElroy testified also (R. Vol. I, p. 489, *et seq.*):

"XQ. 15. Where in the prior art do you find any disclosure of any sort of mechanical contrivance for locating two individual cleats in line and spaced apart in proper relationship to be wired together and then folded so as to constitute parts of the same box?

"A. As I recall it, the line of patents that are generally known as the Rosback patents were the only ones designed to produce *practically the same box as that in controversy*, and there the cleats were sawed out from a single strip after they had been wired on to the sides so that while the cleats would occupy the necessary spaced relation, they were not at the time of wiring separate cleats.

"*I do not find in the prior art* any disclosure of any sort of mechanical contrivance for locating two individual cleats in line and spaced apart in proper relationship to be wired together and then folded so as to constitute parts of the same box, understanding that by 'mechanical contrivance' is meant what would ordinarily be called a machine. The two machine patents in suit disclose mechanical contrivances for locating two individual cleats in line and spaced apart in proper relationship to be wired together and then folded so as to constitute parts of the same box.

"XQ. 18. Do defendant's machines, as you have observed them, as explained in your direct testimony in this suit, have mechanical contrivances for locating two individual cleats in line and spaced apart in proper relationship to be wired together and then folded so as to constitute parts of the same box?

"A. *I should say so.* That, of course, is speaking broadly, and without reference to any definition of the invention by the claims of the patents in controversy.

"In defendant's machines the mechanical contrivances for locating two individual cleats in line and spaced apart in proper relationship to be wired together and then folded so as to constitute parts of the same box, are the stationary guide, and the chains with the cleat pushers. Part of the work of the stationary guides is to insure the positioning of each cleat with its rear end against its pusher. It is correct that that is the principal function of the stationary guides, insofar as it relates to the endwise positioning of the cleats. Of course the primary function of the guides is to support the cleats rather than position them. The thing that ultimately defines the position of a cleat on defendant's machine, in relation to another cleat in the same line, is the pusher which contacts with the rear end of the cleat.

"XQ. 23. Where, if at all, in the prior art do you find any machine having two devices arranged to contact respectively with the rear end of two cleats for locating two individual cleats in line in proper relationship to be wired together and then folded so as to constitute parts of the same box?

"A. As I recall it, there is *no machine* arranged to do this, with all the limitations expressed in your question.

"XQ. 24. What is the machine in the prior art which represents the nearest approach you have been able to find to the arrangement just described in my XQ. 23?

"A. That would depend a little on the angle from which the question was approached. So far as the use of the plurality of cleats at the same time on the same machine is concerned, I would say that the structure of the Fuller patent 694,467 is the most pertinent, but of course *Fuller did not wire his basket tops together.* However, considering the fact that any mechanic would naturally use as many cleat pushers as might be necessary to push the required number of cleats for a blank, it seems to me that the *Rosback patent 614,348 is really the more pertinent.*

"In the Fuller patent 649,467 there is *no suggestion whatever of locating any two parts in a foldable relationship and then wiring them together in that relationship.* That is one of the reasons why I consider the Fuller patent *less pertinent than the Rosback patent.* It is my recollection that *none* of the Rosback patents *makes any suggestion whatever of locating any two individual parts in a foldable relation and then wiring them together in that relation.* Throughout the Rosback series, as I recall it, the idea was to do the wiring first and then saw out the individual cleats from strips the length of the blank. As I recall it, the wiring mechanism of the Rosback blank machines *could have* dealt with preformed individual cleats, *but Rosback did not contemplate that method.*

"XQ. 29. Can you point to any disclosure in any of the Rosback line of patents, or in any other prior art patents, indicating knowledge in the prior art that two preformed individual cleats could be mechanically positioned in line in foldable relationship and then wired together to perpetuate that foldable relationship and permit the cleats to be folded so as to constitute parts of the same box?

"A. I think I have previously said that there was *no machine* that I recall that was specifically designed to do what is set out in your question."

Since Mr. McElroy was produced as Petitioner's only witness and as a mechanical expert, his testimony just quoted is highly significant. It establishes beyond possibility of question that the prior art does not show the fundamental idea of foldably positioning and wiring detached cleats, while the Inwood and Lavenberg machine and Petitioner's machine are characterized, in common, by the same sort of positioning devices and functions. There could hardly be a clearer demonstration of both patentable novelty and infringement.

Reply to Petitioner's Brief, and Argument Upon Adverse Conclusions in the Earlier Court Decisions.

Petitioner's main reliance is upon a mixed non-infringement and non-invention defense, one aspect of which is expressed in Judge RAYMOND's opinion thus (24 Fed. (2nd) at 874):

> "• • • As soon as the method disclosed in the box patent was divulged, it became obvious to those familiar with the prior Rosback inventions that, in order to produce the Inwood and Lavenberg box-blank, it would be necessary only to add the *extra pushers* called for by the *extra pieces of a different form of blank*, and that so to do was a matter merely of the exercise of ordinary mechanical skill."

A specifically different idea was expressed in the *Per Curiam* opinion of the Seventh Circuit Court of Appeals as follows (25 Fed. (2nd), at 366):

> "• • • The moment the *long cleat* was discarded and supplanted with *short ones*, the workholder and machine readily appeared as the logical solution of the mechanic to the problem confronting him."

We have already pointed out (*ante*, p. 34, *et seq.*) the proved *historical facts* that when Inwood and Lavenberg first divulged their method of using preformed cleats, —suggested "discarding" the long Rosback cleat strips and "supplanting" them with preformed "short ones",— the idea was "disregarded as being impracticable or *impossible of operation*"; the reverse of obvious, as supposed by Judge RAYMOND and the Seventh Circuit Court of Appeals. Such conjectures as to obviousness cannot be reconciled with the *facts*.

Nothing can be reckoned an obvious or "logical solution" of a mere mechanic, when the solution, when first proposed, is flatly rejected as impracticable, and is then finally adopted only after persistent test and demonstration of its unsuspected merit (*ante*, p. 39).

The above-quoted erroneous conclusions of the Courts are explainable, however: They emerged from a confusion of thought induced by an utterly fallacious argument which pervades Petitioner's brief from beginning to end. That argument is summed up thus (Petitioner's brief, p. 39):

> "Second, assuming that Petitioner's cleat pushers operate functionally in a different manner from the pushers of Rosback, it is obvious that the functional difference is not because of any structural difference but simply because of *the difference in the blanks;* that is to say, *Petitioner's blank is different from the blank of the Rosback patent.*"

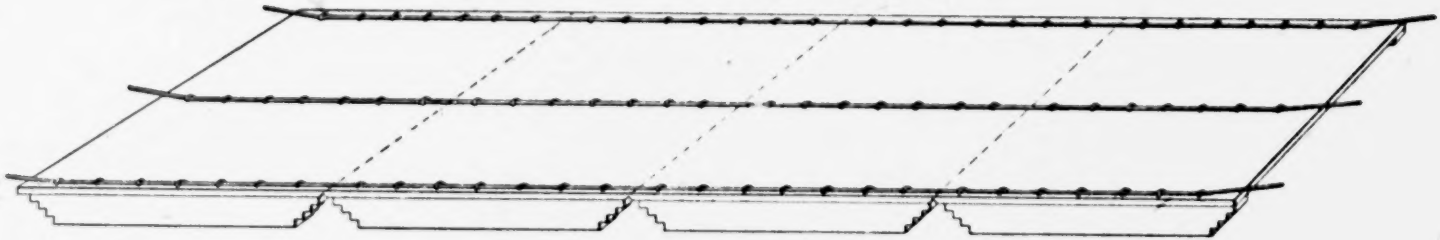
Again, Petitioner says (brief, p. 41):

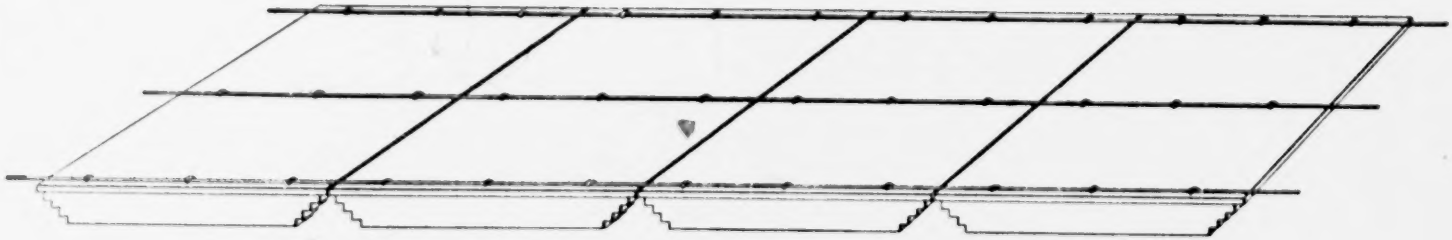
> "The fact is,—it was *the blank itself which told the Petitioner what to do*, and which *dictated* what would have to be done to the Rosback machine in order to make a blank having *a different number of cleats.*"

SCORED VENEER BLANK

MADE BY ROSBACK TWO MACHINE PRACTICE; ALSO BY FIRST INWOOD AND LAVENBERG SINGLE MACHINE

TAKEN FROM FIG. 71 OF UHRI PAT. 608809





LAP CORNER BLANK

OF REISSUE PAT. 12725; ALSO LIKE PETITIONER'S BLANK

What then is "the *difference*" in the blanks"? How is Petitioner's blank "different from the blank of the Rosback patent"? How does Petitioner's blank have "a *different number of cleats*" from the Rosback blank, so that this pretended "different" blank taught Petitioner to do something which Rosback had been unable to do?

Petitioner repeatedly refers to the blank shown in the Inwood and Lavenberg reissue patent No. 12,725, and says that that is the kind of blank made by Petitioner (*e. g.*, brief, p. 22, par. 4). Hence, to answer the questions just propounded, comparison should be made between the prior-art Rosback blank, the like blank first made upon Inwood and Lavenberg's new machine, and Petitioner's type of blank represented in said reissued patent.

For convenient reference, we show on the opposite page:

Fig. 1, the Rosback foldable blank made according to the Rosback prior-art practice, and also made in the first use of Inwood and Lavenberg's new machine for positioning and wiring preformed cleats.

Fig. 2, the blank of the reissued patent No. 12,725.

These two blanks are *exactly alike* in this: Each has *eight* separate cleats, in two rows of four each; in each row the cleats are spaced apart in foldable relationship; they are permanently wired together and stapled to side-material so that all of the parts will fold co-operatively when the flexible blank is bent into four-sided box form.

The two blanks differ in this, and *this alone*: The *side-material* of the Rosback blank (Fig. 1) is in a single piece of veneer simply scored part-way through (at the places indicated by dotted lines), while the *side-material* on the second blank (Fig. 2) is made in four separate pieces.

Thus the sole "difference" between the old Rosback blank and the blank Petitioner desired to make, was the difference between *one* sheet of *side-material* scored at intervals to set off the four side sections, and *four* sheets of side-material made separately from each other to provide the four sections.

As to *cleats* and *cleat relationships* the two blanks were identical.

When Petitioner desired to make the blank of the reissued patent No. 12,725, it had only to produce exactly the same number of *cleats*, the same foldable relationships of *cleats*, and the same relation of attached wire and cleats, which the Rosback inventors had tried for ten years to produce commercially, but without success.

There is no truth in Petitioner's argument that it modified the Rosback machinery "to make a blank having a *different number* of cleats". The reverse is true: Petitioner desired to make a blank having the *same number* of cleats, and for that purpose it superposed upon the old Rosback machine radically new functions, and new mechanical devices for performing them, in order to *position and wire preformed cleats*,—something the Rosback practices had never involved nor suggested.

The only "difference" between Petitioner's blank and the old Rosback blank, is the difference between the treatments of *side-material* in the respective cases. But this treatment of *side-material*, in one way or the other, has no bearing whatever upon Inwood and Lavenberg's invention of a machine for positioning and wiring together detached preformed *cleats, regardless of the character of side-material employed.*

As Judge DENISON said (37 Fed. (2nd) p. 830, at 836):

"The machine patent [here in suit] pertains to assembling preformed *cleats* and holding them in proper relationship while side-material and binding wire are attached—and this, no matter whether the side-material is a continuous sheet to be folded or slit, or both [as in the Rosback practice], or is a plurality of separate sheets or boards, whose edges overlap [as in the reissue patent No. 12,725 and in Petitioner's practice], or boards which do not overlap but leave either an edge contact corner or a slightly open corner, or is boards or sheets or slats which do not come near the corner but produce a crate; all *these forms can be made on the machine;* most of them have been, in substantial qualities. In other words, this patent pertains to *cleat treatment.*"

This statement by Judge DENISON strictly accords with the facts which Petitioner has not the temerity to dispute.

In fact, Inwood and Lavenberg's invention of a machine for positioning and wiring preformed cleats, had been reduced to practice for making the old Rosback type of blank, with the continuous sheet of side-material, some weeks prior to the invention of the different *side-material* treatment which is the sole subject-matter of the reissue patent No. 12,725 (Appendix to Respondents' brief, pp. 27 , *et seq.*).

And the machine patent here in suit (R. Vol. II, opposite printed page 1192) shows in Fig. 1* the workholder having thereon the *four separate* side sheets, while Fig. 4 (on sheet 2 of the drawings) shows a fragment of the Rosback type of blank in which the side-material B is in *a continuous sheet.* The specification of the patent in suit

*Fig. 1 of the machine patent was evidently inadvertently omitted by the clerk in reprinting the record, but is reproduced on page 10 of Petitioner's brief.

(R. Vol. II, p. 1199) describes this Fig. 4 in the following words:

> "• • • when the parts have been secured together, and the binding wires which are supplied from the reels 51, stapled to the outside of the *sheet* adjacent to the cleat, a blank substantially as shown in Fig. 4, is formed in which A are the cleats; B the sheet [note the singular, indicating the continuous side-material of the Rosback type]; C, the binding wire; and D, the staples. This blank when bent into rectangular shape forms the sides of a box."

Thus clearly the machine of the patent, as specifically disclosed, was usable for making either the Rosback blank having the continuous side-material or the later (and Petitioner's) blank having the four sheets of side-material.

The final paragraph in the machine patent specification (R. Vol. II, p. 1200) confirms the fact as follows:

> "As will appear to those skilled in the art, this invention constitutes an important advance in the box-making industry; especially in that it provides *for the first time mechanical means* for controlling side-material [without limitation to the character thereof, whether in one or many sheets] and *separate individual cleats*, preparatory to applying binding wires thereto, in combination with means for foldably connecting said parts [by the binding wires] to form finished foldable wire-bound box-blanks. The invention is, of course, not limited to the specific construction, organization and mode of operation hereinbefore described for illustration."

Thus the historical facts as well as the explicit disclosure of the patent in suit, demonstrate conclusively that the mere difference in *side-material* treatment between the old Rosback blank, on the one hand, and the blank of the reis-

sued patent No. 12,725 and that made by Petitioner, on the other hand,—had no bearing whatever upon the invention of the patent in suit which, regardless of side-material treatment, pertained strictly to *cleat* treatment by the mechanical positioning and wiring together of preformed cleats.

This is further confirmed by the language of claim 25 which is in suit (R. Vol. II, p. 1208) which is directed strictly to the mechanical cleat treatment, as the essential substance of the claim; while "side-material" is referred to only in a generic sense. For instance the claim mentions: "said work controlling means being arranged to receive side-material [generically; of whatever character] to be secured to said cleats" and "fastener applying means for securing binding means [the wire] to the side-material [of whatever character] and cleats", etc.

The foregoing indisputable facts lead inevitably to these conclusions:

1. The Rosback inventors always produced the flexible blank having *eight* cleats in foldable relationship, coupled with a continuous sheet of side-material.

2. Inwood and Lavenberg, at the outset, produced the flexible blank having eight cleats in foldable relationship, coupled with a continuous sheet of side material.

3. Presently, by the box invention of the reissue patent No. 12,725, Inwood and Lavenberg produced the flexible blank having eight cleats in foldable relationship, coupled with *four* separate sheets of side-material.

4. Thereafter Respondents (and their predecessors) produced the flexible blank having eight cleats in foldable relationship, coupled with various forms of side-material including mere slats to form crates.

5. Eventually Petitioner entered the field and produced the flexible blank having eight cleats in foldable relationship, coupled with four separate side sheets.

The point is that, from beginning to end, the incessant effort was to produce the box blank having eight separate cleats in foldable relationship, wired together to perpetuate their relationships, and combined with one or another of several species of side-material. So far as concerns the objective of the *eight* cleats in foldable relationship, wired together, the *product* remained the same continuously from the first experiments in 1894 down to Petitioner's production of the same cleat arrangement nearly thirty years later. The number of cleats and their relationships, in the *product* were uniformly the same.

In the light of these facts, there is no possible feature of "difference" in Petitioner's eight-cleated *blank* which could have taught anything as to mechanical positioning of detached cleats, that was not equally taught by the old Rosback eight-cleated blank.

The eight foldably related cleats of Rosback's blank failed for ten years to teach the Rosback inventors to start with preformed cleats. They did not teach Inwood and Lavenberg to start with eight preformed cleats; on the contrary, they and other mechanical experts rejected the idea, at first, as apparently impractical (*ante*, p. 35). Lacking Inwood and Lavenberg's inventive teaching, under the patent in suit, the same arrangement of eight foldably related cleats could not have taught Petitioner to start with preformed cleats.

The eight foldably related cleats of Rosback's blank were always produced, during ten years, by the *two*-machine practice using one machine to make the rigid

preliminary blank and a second or step-miter machine for severing the cleats and rendering the blank foldable. The eight-cleat arrangement never taught the Rosback inventors that, or how, eight detached cleats might be mechanically positioned in foldable relationship. The familiar eight-cleat arrangement did not teach Inwood and Lavenberg that, or how, eight detached cleats might be mechanically positioned in foldable relationship. On the contrary, they supposed at first that this would be impracticable.

It is perfectly incredible, that the same familiar eight-cleat arrangement, in the blank which Petitioner desired to make, could have taught or "dictated" (as Petitioner says) what Petitioner needed to do in order mechanically to position eight cleats in foldable relationship.

Petitioner was not dealing with a *new* cleat arrangement that might have suggested a *new* mechanical expedient. Petitioner dealt only with the *same* cleat arrangement which had confronted the art for nearly thirty years, and for ten years had been as completely suggestive and informative to the Rosback inventors as it could ever be to Petitioner. But all the Rosback inventors—Howenstine, Uhri, Knudtson, Rosback, Healy, Flora,—never received any teaching, from the Rosback eight-cleated blank, which enabled them to devise practicable *machinery* for producing the eight-cleat arrangement in the product.

In spite of these facts, Petitioner's brief asserts that its machine was a mere modification of the old Rosback machine "called for by the character of the blank which Petitioner makes"; because "Petitioner's blank is different from the blank of the Rosback patent"; "it was the blank itself which told Petitioner what to do, and which dictated what would have to be done to the Rosback ma-

chine in order to make a blank having a different number of cleats".

In other words, Petitioner's argument comes to this, when the facts are truly disclosed: It is pretended that eight cleats in foldable relationship taught Petitioner *obviously* how to convert the old Rosback machine to the new capacity for positioning preformed cleats, in spite of the fact that the same eight cleats in the same foldable relationships which had been before the Rosback inventors for ten years, failed to teach them any mechanical practice except that involving the *two* machines which proved commercially prohibitive.

Apparently influenced by Petitioner's mistaken argument, the Seventh Circuit Court of Appeals supposed that the Inwood and Lavenberg *single* machine, though the first successful machine in the art, readily appeared to the mere mechanic "the moment the long cleat was discarded and supplanted with short ones" (25 Fed. (2nd) 365). But that critical "moment" arrived as early as 1894 when the very first Rosback foldable blank was made.

For ten years, the Rosback inventors tried to "discard" the long cleat strip (by cutting it in four pieces) in order to "supplant" it with four "short ones". Always they sought to make the product having the "four short ones". That was the whole function of the step mitre machine,—to "discard" and "supplant".

But they never learned to *start* with the "four short ones" and *mechanically position* them in foldable relation, instead of "discarding" each long cleat strip by a complex cutting operation.

It was not enough, however, at any "moment", to conceive merely the idea of starting with four short cleats in each row, instead of one long strip. A further essential

step was required, namely, the invention of *mechanical means* for *positioning* the four detached cleats in each row. And the feasibility of this step was so totally *un*obvious that four skilled mechanics supposed it "impossible of operation", until Inwood and Lavenberg had persistently tested it and finally demonstrated its surprising practicability (*ante*, p. 34 *et seq.*).

These are the proved historical facts that expose the fallacy of Petitioner's argument.

Although no change ever occurred in the cleat arrangement in the *product*, the *means for making* that product underwent a revolutionary change by reason of Inwood and Lavenberg's invention of the machine of the patent in suit.

Whereas the Rosback inventors had tried to produce the eight foldably related and wired cleats by the *two*-machine operation, Inwood and Lavenberg taught, for the first time, how to make the same product upon a *single* machine by positioning and wiring the preformed cleats. Then about fifteen years later, after Inwood and Lavenberg's machine had gone into use, Petitioner produced the same eight-cleat arrangement upon a *single* machine by positioning and wiring together the preformed cleats.

Beyond question, it was Inwood and Lavenberg who offered the striking and revolutionary teaching in the art by rejecting the Rosback practices and discarding whatever the eight-cleated blank had taught to the Rosback inventors. Equally it was Inwood and Lavenberg who taught Petitioner how to make its machine,—and not any suggestiveness of the old eight-cleated blank.

It would be difficult to account for the reasoning adopted by Judge Raymond and Judge Lindley, if it were not for

a certain superficial plausibility in Petitioner's argument which produced its effect by ignoring facts of controlling importance. Petitioner's treatment of the matter is illustrated in such statements as this (Petitioner's brief, p. 22):

> "Petitioner, desiring to make the box-blank of the expired reissue patent No. 12,725, instead of *the long cleated rigid blank of Rosback*, fastened additional pushers on the feed chains to take care of the *added* number of cleat sections in the blank."

But Petitioner did not desire to make some *new* blank "*instead of* the long cleated rigid blank of Rosback". Petitioner wanted to make exactly the eight-cleated blank that was produced by Rosback's step-mitre machine (ignoring the negligible difference in side-material used). And Petitioner's controlling desire was to make that old eight-cleated blank by *new mechanical means* that would avoid the need for the step-mitre machine and would eliminate the intermediate mechanical step of making the rigid preliminary blank.

Petitioner's blank was no substitute for the "long cleated rigid blank of Rosback"; it was simply a duplication of Rosback's eight-cleated foldable blank with slightly, but here immaterially, different side material. In making that eight-cleated foldable blank, however, Petitioner did substitute Inwood and Lavenberg's *single* machine practice for the *two*-machine practice that the Rosback inventors had found impossible; and in making that substitution, Petitioner rejected Rosback's futile teaching and adopted the cleat-preforming-and-positioning idea and *means* that had been originated by Inwood and Lavenberg, exactly as claimed in the patent in suit.

There is no excuse for saying that Petitioner did something "to take care of the *added* number of cleat sections in the blank". Petitioner "added" no cleat sections whatever, but adhered to Rosback's *eight* cleat sections in the foldable blank. The only things that Petitioner "added" were mechanical devices for positioning the eight preformed cleats, just as taught for the first time by Inwood and Lavenberg.

Petitioner's brief says also (p. 7):

> "Rosback's difficulties resulted from his peculiar box,—from the fact that his *complete box blank* was made as a *single rigid structure*, the cleats of which had to be later cut across and the blanks scored to permit folding."

This statement is not justified. Rosback's "*complete* box blank" was never made "as a single rigid structure". On the contrary, it was always an eight-cleated foldable structure. The "single rigid structure" was not a box blank in any sense; it was merely raw material, in an intermediate stage, from which a box blank might be made on the step-mitre machine.

"Rosback's difficulties" did *not* result "from his peculiar box". That same box can be made upon precisely the Inwood and Lavenberg machine, as stated in Judge Dickinson's opinion (*ante*, p. 65). There was nothing about the box that required it to be made by the unsuccessful two-machine practice. There was nothing inherent in the box that enforced the making of the "single rigid structure, the cleats of which had to be later cut across . . .". The reverse is true: As indicated in Fig. 4 of the patent in suit, the Rosback type of bent-veneer blank can be made by simply positioning the eight cleats on the

work-holder, laying thereon a single sheet of veneer (scored or not), and then passing the assembly through the wireing operation according to the teachings of the patent.

"Rosback's difficulties" *did* result from the lack of that inventive vision which ultimately enabled Inwood and Lavenberg to devise successful *machinery* for making the familiar eight-cleated blanks economically and efficiently. As Judge RAYMOND said: "The substantial obstacles encountered, however [by the Rosback inventors] were the *impossibility of automatic or partly automatic production* . . ." (24 Fed. (2nd) 872); they could not devise suitable machinery. And even Judge LINDLEY said: "Rosback tried to get a similar result, but his manner and *method of construction* proved impracticable" (25 Fed. (2nd) 364). Also, "It was the patentee's fundamental difference *in the order of assembly* and methods of construction that contributed most to the *invention* over Rosback" (*ibid*).

In short, the Rosback inventors were unable to produce adequate *machinery*. Their box-blank *structure, per se*, presented no manufacturing problem if only a practical machine could be found. Inwood and Lavenberg invented the successful machine, and Petitioner copied it.

Further, in Petitioner's brief (p. 25):

> "As hereinbefore stated, *the rigid blank* produced by Rosback was not a commercial success. The record shows that when it became evident that the Rosback *rigid blank* was not likely to prove a commercial success, Respondents' inventors, Inwood and Lavenberg, were called in", etc.

This sort of reference to the "rigid blank" is misleading. The suggestion that the "rigid blank" was not a

"commercial success", is futile. It represented a mere intermediate stage in the manufacture of the Rosback flexible box blank. Of course, the rigid long cleated article, *per se*, was commercially useless. It was not the objective of Rosback's work; it was merely a fractional means toward the end of producing an eight-cleated foldable blank. The rigid product remained useless for any purpose until it had been passed through the step-mitre machine and converted into the eight-cleated foldable blank.

Thus, it was not at all the "rigid blank" that failed of commercial success. Nor was it the Rosback box made therefrom. On the contary, the bent veneer box was extremely strong and serviceable as compared with contemporary boxes (see undisputed testimony of Stevens, R. Vol. II, p. 893; Healy, R. Vol. II, p. 825). It was a commercial box (see Masters finding 11 in old Healy title suit, R. Vol. I, p. 453).

Rosback's difficulty went far deeper. He and his associates could not *make* the box commercially because they lacked adequate *machinery*.

But they had always before them the so-called "blank machine" with endless chains and "pushers" for propelling the long cleat strips through the machine. They always had before them the eight-cleated blank with cleats foldably related. They always used the blank machine for the first operation in making the *rigid* blank which was then converted into the eight-cleated blank, on the step-mitre machine. The blank machine with its "pushers" always contributed its preliminary offices toward making the final eight-cleated blank. All these things, for ten years, were in close juxtaposition before the whole series of Rosback inventors who were skilled enough to

procure numerous patents upon their accomplishments (R. Vol. III, pp. 1300-1461). Their knowledge cumulated over a decade of diligent effort.

In fact the Rosback inventors were constantly confronted by all the informative blank machines, "pushers", and *eight-cleat* foldable relationships, that Petitioner was ever aware of, *excepting only that Petitioner had received the teachings of Inwood and Lavenberg's inventions.*

The collective suggestiveness of all those prior art things failed to teach the Rosback inventors how to devise a practicable single machine for producing eight cleats wired in foldable relationship. That same prior art failed to teach Petitioner to make its single machine for producing the *same* eight cleats wired in the *same* foldable relationship.

Indubitably, it was Inwood and Lavenberg, and they alone, who taught Petitioner that the old eight-cleat arrangement could be produced by preforming the cleats, and positioning and wiring them on a single machine.

It is futile for Petitioner to pretend that it drew inspiration from the *old* eight cleats embodied in its proposed blank, and was so enabled to convert the old Rosback blank machine into a successful *single* cleat-impositioning-and-wiring machine without recourse to Inwood and Lavenberg's revolutionary invention of precisely those co-ordinated cleat-positioning stops, for holding eight detached cleats in foldable relation, *which alone made possible the design of such a single machine*, whether by conversion of a Rosback machine or otherwise.

Petitioner should not try to hide behind the transparent subterfuge that it wanted to make a *new* kind of blank with a "*different number* of cleats" and was therefore able

obviously to convert the old Rosback machine to the purpose,—in the face of the proven facts (1) that the only newness in the blank consisted in the substitution of four separate side-sheets instead of one scored sheet, having nothing whatever to do with cleat handling; and (2) that Petitioner sought to produce only the *same* number of cleats in the same foldable relations, and was obliged to adopt the Inwood and Lavenberg cleat-positioning stops in order to make the blank commercially.

While relying upon its fallacious argument just discussed, Petitioner wholly evades a question which it would surely answer, if an answer were possible.

Nowhere does Petitioner attempt to explain why Rosback and his associates did not make the Rosback foldable blank (if it was obvious to do so) on a Rosback machine equipped with *positioning* devices to position preformed cleats.

Instead of answering this vital question, Petitioner (beginning on page 29 of its brief) attempts to explain why Inwood and Lavenberg did not make their box blank on the Rosback machine by adding thereto additional pushers (which Petitioner contends was the obvious thing to do). Petitioner has the temerity to say that Inwood and Lavenberg did not use the Rosback machine with additional pushers because they were afraid of infringing the Knudtson & Uhri Patent No. 518,038 that was owned by Healy. But Petitioner well knows that when Inwood and Lavenberg built their first machine they were on friendly terms with Healy (see record in Healy title suit, Petitioner's Exhibit 17, pp. 1519, 1526), and were licensees under said patent and had a right to use the Rosback machine (R. Vol. II, p. 722, *et seq.*) and actually had a Rosback machine in their factory with which they had been experimenting (R. p.

722). And as a matter of fact, they reduced their machine invention to practice by incorporating their positioning devices in the Rosback machine with which they were experimenting.

But even assuming that the inventors, Inwood and Lavenberg, had some such reason as Petitioner advanced for incorporating their inventive positioning devices in some sort of workholder other than the Rosback chains,—that fact does not detract from the inventive merit of their invention nor *explain why Rosback and his associates for ten years did not add pushers to the Rosback machine to make the Rosback foldable blank.* In view of these historical facts, the mere adding of pushers to the Rosback machine and imposing upon them a *new* positioning function would have been meritoriously inventive. At this late date it seems a simple thing to do, but the fact remains that Rosback and his skilled associates could not see how to do it, in spite of the greatest urge to produce a commercial machine to make a wirebound foldable box blank.

Miscellaneous Erroneous Statements in Petitioner's Brief.

Unfortunately there are numerous mistakes of fact in Petitioner's brief which call for correction. We shall discuss them in the order in which they appear.

Petitioner's brief, page 9:

Referring to the Inwood and Lavenberg patents originally in suit, it is said that "the machine, the workholder and the method were all designed for use in producing the box blank of the box patent, reissue No. 12,725".

This is quite untrue.

The Inwood and Lavenberg machine, workholder and

method, all relating to *cleat* treatment, *regardless of the character of side-material employed*, were first designed and actually used for making the prior art Rosback box having the continuous sheet of scored side-material. The invention of the box of reissue patent No. 12,725 did not occur until some weeks *after* the machine, workholder and method had been invented, and the final commercial form of machine had been actually designed and ordered built by the St. Joseph Iron Works. The undisputed evidence establishing these facts is fully discussed in the Appendix to Respondent's brief (pp. 27 to 65).

Petitioner's brief, page 13:

It is said that "these workholders [for positioning the eight preformed cleats] are wholly separate and distinct from the stapling machine in the patent now before the Court."

This is misleading. The workholder, *per se*, was worthless except when incorporated in the organized automatic blank machine, in mechanical co-ordination with the wire applying and stapling mechanism, a co-ordination fully described and claimed in the machine patent in suit.

Also Petitioner's brief says (page 13) that:

> "* * * the [blank] machine must stop after each blank is finished".

This is untrue. On the contrary the specification of the patent in suit explicitly says (R. Vol. II, p. 1199, last paragraph):

> "In operating the apparatus shown and described, the carriages or formers may be fed into the machine one after the other in the manner to *obviate the neces-*

> *sity of stopping the machine* after each blank is stitched [stapled and wired]. In this way, an endless chain of cleat and sheet holders and positioners, with the material thereon, may be caused to pass between the bed-frame and stapling devices, and keep the machine *working to its fullest capacity.*"

Petitioner's brief, page 15:

> "the following is the single claim of the patent in suit which the Court of Appeals of the Sixth Circuit found to be valid and infringed",

then quoting claim 25 which is the only one at bar.

The implication of this remark is misleading. As clearly appears from Judge DENISON's opinion (37 Fed. (2nd) p. 839), claim 25 was simply selected as "typical"; the Court said merely that the other claims of the machine patent might be ignored in the decree; there was no finding that any claim was invalid or not infringed.

Petitioner's brief pages 16 to 21 inclusive:

We invite the Court to note that the Rosback machine here described and shown is simply the machine for making the preliminary *rigid* blank, for performing only the early stages of the Rosback *two*-machine practice. The product of that machine was useless until it had passed through the second or step-mitre machine which converted the rigid structure, for the first time, into a foldable blank. Petitioner's brief omits to describe the complex step-mitre machine. See, for instance, Rosback patent No. 609,630—R. Vol. III, following printed page 1392,—the disclosure of which required *eleven* sheets of drawings; the Rosback patent No. 623,258,—*ibid*—following printed page 1426,—the disclosure of which required *fourteen* sheets of drawings.

Petitioner's brief, page 22, says:

> "Petitioner's machine is substantially a replica of the Rosback prior art machine, except as to the number of cleat pushers or lugs on the feed chains".

This is not true. Petitioner (following the Inwood and Lavenberg teaching) has imposed upon its machine radically new functions, never preformed on the Rosback machine, namely, of *mechanically positioning* a *row* of cleats with their ends spaced apart in foldable relationship so that they can be wired together to perpetuate that relationship. The Rosback machine did not deal with any *rows* of cleats, but dealt simply with the pair of long cleat strips that were laid side by side. The two machines were functionally entirely different. Structurally, they were fundamentally distinguished because the Rosback machine, for each blank, employed *two* pushers simply for *transporting* functions; in Petitioner's machine, for each blank, there are *four* pairs *of positioning* blocks *interposed between adjacent cleat ends* for the new purpose of creating foldable relationships.

In any event, the "Rosback prior art machine", of which Petitioner's is said to be a substantial replica, was simply the machine for producing the Rosback *rigid* blank. The Rosback inventors never perceived any utility in that machine, or any modification thereof, which might capacitate it to produce a *foldable* blank on *one* machine, and thereby avoid the need to use the second or step-mitre machine in the *two*-machine practice.

The comparison is utterly irrelevant,—between Petitioner's single machine for making the foldable blank as its *finished* product, and the old Rosback machine for making the *rigid* blank as merely preliminary raw-material from

which to make the foldable blank on the step-mitre machine.

As a matter of fact, the drawing on page 25 of Petitioner's brief, illustrating Petitioner's cleat positioning mechanism, having the *four pairs* of cleat spacing blocks for positioning the eight cleats, emphatically indicates the distinction from the old Rosback machine which employed only *two pushers* (that did not foldably position at all) for *transporting* two long cleat strips through the machine.

Petitioner's brief, page 27, says:

> "But regardless of the equities, the box patent [reissue No. 12,725] taught everything necessary to practice the invention on the Rosback machine."

There are two reasons why this statement is untrue.

(1) The box reissue patent said not a word about *mechanically positioning* eight cleats in foldable relationship, nor described nor illustrated any cleat positioning blocks for the purpose.

(2) The box of the reissue patent had not been invented until some weeks after the invention of the machine in suit; hence the box patent taught nothing until after Inwood and Lavenberg's *mechanical* invention had taught the cleat-preforming-and-positioning practice. (See Appendix, p. 54, *et seq.*)

The testimony of Respondent's expert Mr. Arthur S. Brown quoted by Petitioner (brief page 28) in pretended support of the statement last quoted above, is not legitimately used for that purpose. Mr. Brown was already familiar with the teachings of Inwood and Lavenberg's patents, and therefore readily perceived how those teachings could be followed by modifying the old Rosback blank

machine. Precisely as Judge DENISON said in his opinion (37 Fed. (2nd) at 835):

> "We can *now see* that at any time during their long efforts, Rosback *et al. might have* used the preformed cleats and assembled them upon the chain by these pushing, spacing, and holding blocks; but the art stood stationary all these years, while no one saw this solution."

Naturally, Mr. Brown saw the solution, after it had been taught to him by Inwood and Lavenberg; just as occurred in Petitioner's experience.

Petitioner's brief, page 29:

As to the "reason why Inwood and Lavenberg did not use the Rosback machine with extra pushers",—the reasons given by Petitioner had no foundation in fact. The true reason was that Inwood and Lavenberg were blazing a new trial; it did not become apparent that the Rosback machine could be modified for the purpose, until after Inwood and Lavenberg had reached the end of their trial and had taught the means of doing it.

In this connection Petitioner's brief (page 30) flagrantly misstates the fact in saying:

> "The reason why, and the only reason Inwood and Lavenberg did not use the Rosback machine, was that it was covered by patents owned by an *adverse party*, and they knew they would be promptly sued if they used the Rosback machine."

This statement is not supported by Petitioner's citations to the Record Vol. I, pages 453 to 456, inclusive. The fact is that there were no "adverse parties" when Inwood and Lavenberg invented their blank machine, or

when they finally designed and ordered built the commercial form thereof.

The "adverse party" referred to by Petitioner, was Mr. Healy; he and Inwood and Lavenberg were on the most friendly terms during all of the time of the designing of the Inwood and Lavenberg machine, and were co-operating diligently as shown by the testimony (R. Vol. II, pp. 723 to 725). No controversy arose between them until about September, 1904 (see record in Healy title suit, Petitioner's Exhibit 17, pp. 1519, 1526), long after the Inwood and Lavenberg machine had been ordered and in course of construction (R. Vol. II, p. 774). And, as already pointed out (*ante*, p. 77), Inwood and Lavenberg's company was operating with a license under all of Mr. Healy's patents, at and following the time the Inwood and Lavenberg blank machine was designed, hence they had no occasion for avoiding any of said patents.

Much is said in Petitioner's brief (*e. g.*, p. 31; particularly p. 61) about the omission of "guides" from the disclosure of the Inwood and Lavenberg blank machine. For instance (p. 31), it is said:

> "* * * Inwood and Lavenberg knew that in order to avoid these claims [of alleged adversely held patents], it would be necessary to employ a machine operating without guides,"

and therefore, it is pretended, they designed the guideless machine of the patent in suit, *i. e.*, omitting merely the guiding means for steering the workholder in a direct path through the machine.

But this argument is demolished by the fact that the failure to show guides in the patent in suit was purely *inadvertent*, as expressly stated in an affidavit filed early

during the pendency of the application for said machine patent. Referring to the file wrapper and contents of the blank machine patent in suit (in evidence as Petitioner's physical Exhibit No. 14) an amendment was filed on April 11, 1907 by which the attorneys attempted to insert in the specification the following text:

> "80,80 represent angle-irons bolted in adjustable position to the bed of the machine on opposite sides respectively on the line of movement of the former [workholder], the purpose of which is to serve, if required, as adjustable *guides to hold the former in proper alinement* in its movement beneath the staple-driving mechanism."

The amendment was accompanied by a request in the following words:

> "Please amend the drawings by placing on Figures 1, 2 and 3 the angle-irons *for guiding the former* in its movement along the bed which are shown in the accompanying photographs, and letter said angle-irons respectively 80,80."

That amendment was also accompanied by an affidavit sworn to on April 10, 1907 by both Inwood and Lavenberg, containing the following:

> "The angle-irons lettered 80,80 were, for the purpose described in said amendment herewith proposed, upon and *formed part of the original machine* built by the direction of the affiants for the purpose of embodying their invention, and that said machine was completed and put into actual use prior to October 27th, [1904] the date upon which said application was filed; that said additional features were *improperly omitted from the drawings and description* filed with said application for Letters Patent" etc.

With this affidavit, and identified thereby, Inwood and Lavenberg presented photographs clearly showing their original machine employing the angle-iron guides.

The Patent Office properly refused to receive this amendment and drawings; but that does not alter the fact that the guides were not omitted from the patent for any of the reasons given by Petitioner, but were omitted accidentally. The fact remained, Inwood and Lavenberg invented the *first* practicable machine in the art.

In any case, the experts for both parties agreed that guides were not necessary and that if they were found desirable they could be supplied by mere mechanical skill (Plaintiff's expert Mr. Brown, R. Vol. I, p. 343; Defendant's expert Mr. McElroy, R. Vol. I, p. 512).

Petitioner's brief, page 43:

> "The guideless machine of the patent in suit was an impossibility, and the Brown machine [the one made by the St. Joe Iron Works in accordance with Inwood and Lavenberg's final design], even with its guides for the workholders was commercially a fallacy".

The first branch of this statement is untrue for the reasons already pointed out; and further in view of the testimony by Petitioner's own expert Mr. McElroy (R. Vol. I, p. 285) that:

> "* * * the workholder or carriage with the parts assembled is then passed through the [blank] machine, which, if the workholder *is guided through carefully by hand* and held down against the action of the staplers, will place the binding wires C in line over the two rows of cleats, and will simultaneously with the placing of the wires D", etc.

This was part of Mr. McElroy's description of the operation of the blank machine of the patent in suit.

Furthermore it is not true that the Inwood and Lavenberg design, or "Brown machine", was commercially a fallacy. On the contrary it was successfully used for some years in making boxes (Babcock, R. Vol. I, p. 217; Inwood, R. Vol. II, p. 777).

Petitioner's Brief, page 50; says:

"The patent in suit is not a pioneer."

There is no basis whatever for this argument. The evidence makes it unmistakably clear that there was no business in wirebound boxes prior to Inwood and Lavenberg, in spite of the ten years of effort by the Rosback inventors to produce practicable machines, whereas the Inwood and Lavenberg machine of the patent in suit immediately founded a successful industry (see table of box business founded upon Inwood and Lavenberg's machine, *ante*, page 20).

Petitioner's brief, p. 67, says:

"Inwood and Lavenberg, after showing their blank, could not have obtained a patent for making that blank upon the Rosback machine with the added lugs on the feed chain. No Patent Officer Examiner familiar with the art would, after having granted a patent on the box blank, have granted Inwood and Lavenberg, or anybody else, a patent for adding to the Rosback feed chains the necessary positioning and pushing lugs which were so well known on feed chains of this class of machinery at that time."

"If Inwood and Lavenberg had applied for a patent on the Rosback machine at the time, with extra

pushers, the Patent Office would certainly have said: 'No, we are going to give you a patent on the box blank and we can't give you a patent on Rosback with the extra lugs because all you have done is to add lugs to take care of the added cleats, and in adding the lugs you have merely adopted what is common practice in the art.' "

But petitioner ignores the fact that the file history of the patent in suit shows that the Patent Office Examiner considered the Rosback patents and the other prior patents referred to by the petitioner, and that the Inwood and Lavenberg blank is illustrated and described in the machine patent in suit. Nevertheless, over all of the references and with knowledge of the Inwood and Lavenberg blank, the Patent Office Examiner allowed claims which clearly *covered the Rosback machine* with added lugs functioning to position separate cleats in foldable relationship. For example, in addition to claim 25 quoted in petitioner's brief, see claims 26, 28 and 32 of the patent in suit, which read as follows:

> 26. A machine for making box blanks comprising, in combination, cleat-positioning means to receive a plurality of cleats disposed substantially end to end; means relatively to position the adjacent ends of said cleats in cooperative foldable relationship; and mechanism for securing side material to the cleats and foldably connecting the cleats in said relationship.
>
> 28. A machine for making box blanks comprising, in combination, cleat-positioning means to receive a plurality of cleats disposed substantially end to end; side material positioning means; means relatively to position the adjacent ends of said cleats in cooperative foldable relationship; and mechanism to connect by wire the said adjacent cleat ends in said relationship.

32. A machine for making box blanks comprising, in combination, cleat-positioning means to receive a succession of cleats; means to provide successive spaces between the adjacent cleat ends to position said ends in cooperative foldable relationship; and means foldably to connect said adjacent cleat ends in succession in said relationship.

The above claims are merely typical of the many broad claims which the Patent Office allowed over the art relied upon by Petitioner. Neither the Rosback patents nor any other prior patent suggests the use of positioning devices to position separate cleats in end to end spaced relationship such that, when wired, the cleats will fold into box form and the immediate result of the wiring operation will be a wirebound foldable box blank.

Such positioning devices were broadly new in the art and were so recognized by the Patent Office in granting the broad claims of the patent in suit over all of the references relied upon by petitioner.

In spite of the demonstrated validity and breadth of the machine patent in suit, and Petitioner's clear infringement, Petitioner contends that it should be permitted to use the machine invention because the respondents have already enjoyed (as petitioner alleges) a monopoly under the box patent for seventeen years.

Even if this argument were sound (which it is not) the fact is that the box patent did not give respondent a substantial monopoly. The box patent is a specific patent directed to an improvement in the arrangement of the *side material* of a wirebound box. The two claims of the patent are limited to a box in which the side material overlaps at box corners. This overlapping of side material at the box

corners is desirable *but not essential*, and millions of wire-bound boxes and crates are made annually without such overlapping at the corners.

At any time during the life of the box patent anyone could have made wirebound boxes with side material which did not overlap at the corners, without infringing the box patent. Petitioner's licensee, the Gibbons Box Company, defendant in the Seventh Circuit case, avoided a preliminary injunction under the box patent by making boxes in which the side material did not overlap at box corners. The box patent issued in 1905 and expired in 1922. The machine patent issued in 1915 and expires in 1932. From 1905 to 1915 anyone could have made the box without overlapping corners on the Inwood and Lavenberg machine. From 1915 to 1922 anyone could have made the Inwood and Lavenberg box without overlapping corners according to the Rosback two-machine method. Since 1922 anyone could have made the box with or without overlapping corners according to the Rosback two-machine method. Thus it appears that respondent has never had a monopoly of the industry at any time. It had a box patent from 1905 to 1922 covering a specific improvement in a box structure, and since 1915 it has had a machine patent covering a machine for making that same box and *many other boxes not covered by the box patent*. On this point, Judge DENISON said (37 Fed. (2nd) 835:

> "In reaching the conclusion of patentability, and giving reasonable force to the public acceptance and the creation of a new industry, we do not overlook the doubtless substantial part which another patent played in the commercial result. This was the so-called product patent of September, 1905, covering a blank for a box with overlapping edges, which could be con-

structed by this machine when including certain details. Until after the time when the machine invention was broadly complete and the order for its construction had been given, these patentees, like all who preceded them, had been planning for the manufacture of a box having for its side material a continuous sheet of veneer, which at the folded corners would turn at right angles with a bend, which might be accelerated by partial slitting; but *later* they observed that the machine could be used to produce a box blank with four entirely separate sides, and that when it was so used they could so space the sides and cleats that when the blank was folded the edges would overlap, one edge flush with the adjacent side, according to the universal practice in building wooden boxes. The specification of the machine application shows that it might or might not produce this result. At the same time came the application for a patent upon this specific product; that is, a box blank which would be built by this machine, provided it was arranged for separate sheets with overlapping edges instead of a continuous side. This box application went through without difficulty, and the patent was issued in 1905, and reissued in 1907, expiring in 1922. It was sustained in various litigations. Undoubtedly, for most purposes, this overlapping edge box was an improvement over the continuous side box. The public favor which has been mentioned, was doubtless due, in some measure, to this overlapping edge feature. *Non constat* that the older form would not have been accepted on the market with favor. It is clear that the overlapping edge box could not have been a market success unless it had been the product of an automatic machine, which enabled it to be made cheaply. To give the credit for success to the preferred form of the product and to ignore the means of its manufacture, which means alone made the success possible, is an inference which we cannot reach.

> Perhaps the credit should be divided; enough remains to be persuasive of invention in the machine * * *.

Petitioner's brief argues that the reissue box patent No. 12,725 tends to destroy the machine patent in suit, and this seems to have had some weight with Judge RAYMOND and with the Seventh Circuit Court of Appeals. But, aside from the reasons already pointed out, Judge DENISON's opinion indicates the fundamental fallacy of this argument. Judge DENISON said (37 Fed. (2nd) 836, paragraph [4]:

> "Nor can the product patent invalidate the machine patent as double patenting or by any analogy to that theory. The monopolies granted by the two patents are not coextensive. The machine patent pertains to assembling preformed cleats and holding them in proper relationship while side material and binding wire are attached—and this, no matter whether the side material is a continuous sheet to be folded or slit, or both, or is a plurality of separate sheets or boards, whose edges overlap, or boards which do not overlap, but leave either an edge contact corner or a lightly open corner, or its boards or sheets or slats which do not come near the corner but produce a crate; all these forms can be made on the machine; most of them have been, in substantial quantities. In other words, this machine patent pertains to cleat treatment. The product patent pertains to the selection and treatment of side material, and it covers and protects only one of the several forms of product of the machine. Plainly, the machine invention was the underlying thing, *quasi* generic; the product patent is a side issue, *quasi* specific. Even with patents relatively and completely generic and specific, the rule is established, at least in this Circuit, that the generic patent earlier applied for will be neither invalidated nor limited by the specific patent later applied for and copending, even though

> the later application develops into the earlier issue. Much less will there be such avoidance of limitation, when the two patents are so far from coextensive that *either one may be infringed without infringing the other.*"

Petitioner argues also, with some apparent effect upon the decisions of Judge RAYMOND and of the Seventh Circuit Court of Appeals, that Inwood and Lavenberg's method invention should have a destructive effect upon the machine patent. As a matter of fact, however, the method and machine inventions emerged practically simultaneously as different aspects of the same inventive thought. As clearly permitted by the Patent Statute, these two aspects were claimed in separate patents, upon applications which were co-pending. Judge RAYMOND strongly intimated, in His Honor's opinion, that the method would have been validly patentable except for the alleged technical defect of tardiness in filing the divisional method application. In any event the late filed method application, and the invention thereof, can have no effect upon the machine patent, particularly in view of the co-pendency of the method claims and the machine claims. Certainly the method cannot be considered to be in the prior art, with reference to the machine invention.

The matter is well disposed of in Judge DENISON's opinion as follows (37 Fed. (2nd) 836, paragraph [3]):

> "It has been suggested that the disclosure made by the method patent left no claims for invention in the machine patent. This suggestion cannot be of force, since the patents were copending and one is not prior art as against the other, even if they had not both been issued on the same day. See cases infra. If by the

suggestion it is meant that the primary thought was in the method and that little or no invention was needed to make a machine, once the method had been conceived, that may be true; but that cannot militate against the validity of the machine patent when the two are practically simultaneous, for in such case the concept involved in the method is an important and perhaps a vital part of the machine invention. The concept which underlies and precedes the machine may or may not involve an independent patentable method; in either event alike the machine is patentable".

Conclusions.

1. The primary *facts* found by those Courts who decided adversely to the patent in suit, establish that Inwood and Lavenberg were the very first to produce a commercially practicable machine for making wirebound boxes; the first to devise a *single* machine for making a foldable blank, to replace the totally unsuccessful *two*-machine practice of the Rosback inventors.

2. As Judge DENISON found, the Inwood and Lavenberg *single* machine must be credited with establishing a new and valuable industry;—the value of that machine being emphasized by the preceding ten years of failure on the part of the Rosback inventors, and by Petitioner's election to use (and try to vindicate) a copy of that *single* machine, and its refusal to try to use the old Rosback *two*-machine practice.

3. Although Inwood and Lavenberg's *later* invention of the lap-corner box of the reissue patent No. 12,725 undoubtedly contributed something to the success of the new industry,—because of the superiority of the box,—the in-

dustry would have been impossible lacking the "automatic or partly automatic" machinery (referred to by Judge RAYMOND) which was essential for making the box economically; which the Rosback inventors were never able to produce; and which Inwood and Lavenberg contributed to the art under the patent in suit.

4. Directly following the Inwood and Lavenberg teachings, Petitioner has adopted the four pairs of cleat spacing blocks, and the other cleat "pocketing" devices, to position preformed cleats in foldable relationship; and has thereby succeeded in making the *single* machine for immediately producing the foldable blank, as distinguished from the impracticable Rosback practice of using *two*-machines for the purpose.

We respectfully contend that the decision of the Sixth Circuit Court of Appeals should be affirmed, with costs.

Respectfully,

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JANNEY, BLAIR & CURTIS,
Of Counsel.

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IN THE

Supreme Court of the United States

OCTOBER TERM 1930.

No. 51.

SARANAC AUTOMATIC MACHINE CORPORATION,
Petitioner,

v.

WIREBOUNDS PATENTS COMPANY and 4-ONE BOX MACHINE MAKERS,
Respondents.

APPENDIX TO RESPONDENTS' BRIEF

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Respondents' Counsel.

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APPENDIX TO RESPONDENTS' BRIEF.

The Historical Background of the Inwood & Lavenberg Inventions.

In 1891, thirteen years prior to the Inwood & Lavenberg inventions, one Henry Stephens began experimenting with wirebound boxes (R., Vol. II, Healy, p. 209; Stephens, p. 889, *et seq.*). He obtained a license under the Howenstine patent No. 453,479 (*id.*, p. 890), now cited by defendant; and for some months experimented with that Howenstine patent in an attempt to make wirebound boxes. Presently, after eight or nine months, Mr. Stephens employed Jacob Uhri, patentee of the Uhri patent No. 608,809, now cited by defendant (*id.*, p. 890). The application for the Uhri patent was filed November 16, 1895, while Uhri was working with Stephens and his associates, and the bent veneer type of box shown in the Uhri patent was described by Mr. Stephens as the one which they were attempting to make (*id.*, p. 890).

As disclosed in the Uhri patent, and in succeeding patents to Rosback and others, this bent veneer type of box continued of uniform character, and that box and machinery and methods for making it, were the subject of about thirteen years of experimentation which preceded the Inwood & Lavenberg inventions.

The bent veneer type of box, as disclosed in the patents and described by the witnesses, is the same one described in Respondents' brief, and referred to by Judge Raymond and others, as made by the "Rosback inventors" using the complex *two*-machine practice.

This prior art practice was characterized by making the *rigid* and inflexible blank on the blank machine, followed by a cleat-cutting and veneer-scoring operation upon

a separate step-mitre machine; and this latter *cutting* operation produced for the first time a foldable blank.

It was this practice which Mr. Stephens and Uhri and others experimented with for thirteen years, without success as found by all the Courts who have considered the subject. Their complete and persistent failure to devise practicable machines, is amply proved in the present record.

Plaintiffs' evidence on this subject is uncontradicted and we will summarize it as briefly as may be. Some of the evidence has been stipulated into the present record from records of former suits. For instance, one of the principal witnesses is William P. Healy who testified in *William P. Healy* v. *National Wire Bound Box Company et als.*, a suit brought in the District of Indiana to test the title to the patents in suit among others. That suit reached the United States Circuit Court of Appeals for the Seventh Circuit in *National Wire Bound Box Co. et als.* v. *Healy*, 189 Fed Rep., 49. The testimony of Healy and several others, as quoted hereinafter, was given in that suit and has been stipulated (R., Vol. I, p. 45) into the present record.

Mr. Healy was testifying in the latter part of August and early September, *1905*, at a time when the events were fresh in his mind. His testimony appears in the transcript (Vol. I, p. 460; Vol II, pp. 707, 751, 823).

He had been since November 15, 1894, the principal stockholder of Wire Bound Packing Box Company and since 1896 had been its president, and he had "attended solely to the affairs of the company" since 1895, that is, for ten years prior to his testimony. There had also been the Wire Bound Packing Box Company of Illinois of which Mr. Healy was secretary. He, Henry Stephens (already referred to) and three others, were directors.

These two companies were organized to manufacture and sell wirebound boxes and build machines for making them. The first named company was a Michigan corpora-

tion. It granted operating licenses to an Illinois corporation.

Mr. Healy described his company's control of the Knudtson & Uhri patent No. 518,038, of April 10, 1894 (R., Vol. II, p. 708), Uhri patent No. 608,809, of August 9, 1898 (*id.*, p. 709) and the Howenstine patent (*id.*) already referred to.

Mr. Healy (*id.*, 712) testified thus (our italics):

"The Illinois Company *had never been able, during its time*, when it was endeavoring to operate and do business, to make any money. *It lost money; it lost all it had;* spent every dollar. They had some Treasury stock, about 87 shares, and that was sold in order to raise some money. As to assets, it had this patent to Knudtson and Uhri, that was a good asset, and then it had patent No. 608,809, and then it had a machine that Knudtson and Uhri built, which we thought was valuable at the time, but was afterwards *thrown into the junk pile; we found it would not work*, and had $2,000 in cash, I think $2,000 in cash paid into the treasury.

* * * * *

"The assets were expended in building *machines* and experiments, paying wages to the men and buying materials to build the machine."

* * * * *

R., Vol. II, p. 713:

"After the organization of the Michigan Company, it raised two assessments of one dollar each, which brought $6,000 cash into the treasury. The money was paid into the corporation, six thousand dollars by the stockholders. We expended this money in *endeavoring to build a wirebound box-blank machine*. The builder of that machine was Mr. Jacob Uhri, and we got patent No. 608,809 from his efforts, from his invention. That is about the only result. After a while the money was all expended.

* * * * *

"No boxes or products were built or perfected by the Michigan Company and put upon the market. *There was never a box sold. I never sold a single box,* but there was quite a number of sample boxes made while we were experimenting; naturally we made some boxes. These we gave away, but there were very few boxes made while Mr. Uhri had charge. The Michigan Company went out of business. It was dissolved under the statutes of Michigan on January 9, 1900, or thereabouts. That is my best recollection. From first to last, since I began with the Illinois Company, I have expended in this enterprise from September 15, 1894, to the present time [August, 1905] about $62,000 in round numbers, and then five per cent. interest on that investment would be about $82,000; that is, if I had five per cent. on that amount of money. I put in $62,000. My income has been $43.41 royalties from the South Bend Healy Box Company of which the Wire Bound Packing Company is entitled to one-half of one per cent. I wish I had never heard of the Wire Bound Box Company.

* * * * *

"The Illinois Company and the Michigan Company were organized to manufacture and sell wirebound packing boxes and *build machines* for the manufacture of wirebound packing boxes. The devices and boxes and products which these companies were to turn out were covered by patents, the Knudtson and Uhri patent and the Howenstine patent.

* * * * *

R., Vol. II, p. 715:

"After the dissolution of the Michigan Company to which I have referred, I took no steps to organize a new company, but went on as an individual.

"Q. What efforts, if any, did you make to introduce the products of these machines covered by the patents that you have mentioned, to the public?

"A. After the Michigan Company retired in 1896, —they retired from business then,—I went on alone,

and employed another inventor named *Rosback* at No. 60 Canal Street, Chicago. I had him *for four years*, experimenting and *trying to build commercial machines. He built several* for me, and I expended probably in his shop ten thousand dollars, certainly it was all of ten thousand dollars, and then I got out some patents. I got three or four patents from Rosback on the machinery. He invented a step-mitre machine. He built three step-mitre machines for me, and he built three box-blank machines and two nailing machines, and I devoted my personal attention to this for four years. I did not take any vacations in the summers, I kept right here along nearly all the time. I believe I did take one vacation in 1897. My efforts were continuous, expending money all the time in *trying to perfect a set of machines to build wirebound boxes.* I did not like to lose the money I had put in. I was putting in good money after the bad.

* * * * *

R., Vol. II, p. 716:

"I got acquainted with Mr. Flora, E. Flora, designer and inventor, and he took hold of the enterprise trying to promote it in Chicago, and he associated Mr. Inwood with him, one of the defendants here, and they both tried to promote it for a while and failed in the enterprise. And then Mr. Flora made a set of drawings for me for the three *machines* which cost me $1,200. I afterwards got a patent on Mr. Flora's invention granted to me from the United States. It is a different invention from Mr. Rosback's machine.

"I cannot say now about how long Mr. Flora was really connected with me; quite a number of months. Oh, we were together off and on for quite a while, probably from 1901 until the spring of 1904.

"I first met Mr. Inwood by being introduced to him by Mr. Flora in the fall of 1901.

* * * * *

R., Vol. II, p. 733:

"As to the next man, inventor or expert employed to get up improvements on these machines, I had Mr.

Edward Craig and then I had Mr. Brown of St. Joe. Mr. Craig did certain work for me on inventions for me, but not in this suit. I have had two other gentlemen inventing for me since the commencement of this suit.

"In connection with my employment of experts or inventors, and in taking out patents upon the inventions and improvements that they have made upon this box-blank *machinery*, I think it cost me over $10,000 with Mr. Rosback, and the patents cost about $15,000, as near as I can figure it up, in this country, and in foreign countries, paying taxes in Europe and proving up the work which is quite expensive, and my connection with Mr. Flora cost me about $2,500, including the working drawings. I did not pay anything to Knudtson and Uhri, except what the company paid them. About $62,000 is my own personal expenses.

"As to the money I expended in obtaining or attempting to obtain improvements upon any new *machinery* with reference to the manufacture of wirebound boxes, the patents cost about $15,000; Mr. Rosback $10,000; Mr. Flora $2,500.

"On the 21st of March, the option was given to Robinson and Inwood, and on the 26th of April, *1904*, a license was given to the South Bend Healy Box Company. *Up to that time I had obtained not a dollar in profits on all this outlay that I had made to get improvements upon wirebound box machinery.* **I had not at that time succeeded myself or through any of the experts that I had working for me in getting any machines which would make commercial wirebound boxes.** [Inwood and Lavenberg completed their inventions in May and June, 1904.]

* * * * *

R., Vol. II, p. 735:

"At the time Mr. Rosback and Mr. Flora were experimenting *they had access to my patents on my machines and everything that I had accomplished* in the way of patents on machines for the improvements

on wirebound boxes from which to work to make their improvements. *They were never able to accomplish anything so far as making commercial* **machines** *was concerned,*—that is, they never did do it whether they were able or not, I don't know.

* * * * *

"The first time that I met Mr. Robinson in connection with this business was on the 25th of March, *1904,* in this city, I never heard of him before. Mr. Inwood was present on that occasion. Mr. Robinson was ready to make a contract then and there. I did not tell him at that time that these machines were commercial machines. *I told him they were not commercial machines expressly. I told him that none of the machines that had been patented were commercial machines.* I told him what patents I had, and that certain machines had been made under those patents.

"Q. And you tell us that after you had told him that and also told him that no machines that were commercial machines had been made, that he said then and there promptly that he was ready to go into the business to promote a non-commercial enterprise?

"A. Yes, sir. He did not place any reliance at all upon the old set of machines, but he relied upon the certificate given by Mr. Dyrenforth that I controlled the art, and we all agreed that we could find a man who would get up a machine to do that work, *I told him I had lost confidence in Mr. Rosback's ability, and let him go,* and had taken up with Mr. Flora, and I had more confidence in the work of Mr. Flora."

* * * * *

R., Vol. II, p. 737:

"*None of the machines which have been made under those patents up to the time that the Robinson and Inwood option was given,* [*May, 1904*] *were of any value,* I regret to say. I regret to say I have never made any money or any profit out of them. *I have been putting in the greater part of ten years of my life* in trying to make money out of them."

The foregoing (amply corroborated as presently explained), clearly shows the status of the Rosback inventions as total failures and mere abandoned experiments. The same is true of the Howenstine, Knudtson and Uhri, Uhri and Flora inventions and patents, all of which were involved in the concerted efforts of Mr. Stephens and Mr. Healy to produce some sort of commercial machines and method for making wirebound boxes. *And that is the prior art mainly relied upon by this Petitioner.*

It is noteworthy that all of the foregoing was testified to by Mr. Healy in a deposition beginning on August 31, 1905, and concluded on September 5, 1905 (R., Vol. II, p. 707), when all the circumstances must have been fresh in his memory.

Mr. Inwood (one of the inventors of the patents in suit) also testified in 1905, corroborating Mr. Healy. Mr. Inwood and Mr. Healy were adversaries earnestly fighting each other in the suit in which they gave their testimony here referred to; and therefore their strict corroboration of each other, in the particulars here pertinent, is most striking. The Inwood testimony relates to the period beginning in the Spring of 1904; Mr. Inwood testified (R., Vol. II, p. 757) that he was working with Mr. Flora between 1901 and 1903 and during that time that Mr. Flora was trying to promote Mr. Healy's matters under an option.

Inwood testified thus (R., Vol. II, p. 766):

> "The Rosback machines were shipped from Chicago and arrived at South Bend just about this time, and Mr. Rosback came to South Bend about the first of May [1904] and remained here some six weeks or more working on the *machines* trying to get them in order to make boxes. The machines were set up in the plant immediately after their arrival, it taking about a week to get them set up. Mr. Rosback did not assist in setting them up, but arrived after they were

set up, and went to work on them. He remained here about six weeks.

"After he got here and the machines were set up, he worked with the *machines* very faithfully towards making boxes. He was there early in the morning and worked until late, and was wholly unsuccessful in getting any one of the three *machines to work commercially*. The nailing machine he did not get to work at all, and the step-mitre machine and the other machines never ran satisfactorily for more than five or ten minutes without breaking down, and *the work which they done was imperfect always*. There was never a box made on the Rosback machines; the boxes were all tinkered with and finished by hand.

"The difficulties in the box-blank *machine* that *prevented the making of boxes commercially*, were that in the first place the machine was very poorly constructed. It was a very complex machine with a multitude of parts, which were not securely fastened, and were too delicate, in some instances, to stand but a few minutes use. The mechanical principles involved in the machine were also wrong, so much so that if the machines were placed in good order, other than I have stated, *it would not do, and could not do good work.*

* * * * *

R., Vol. II, p. 768:

"The mechanical principles in the step-mitre machine [Rosback's machine for severing the cleat strips and scoring the veneer of the rigid Rosback blank] were entirely wrong, for the reason, first, if the veneer or box should be warped it would not cut a groove in the veneer where the corner of the box should come when folded of equal depth. In some cases the knives would cut clear through the veneer and an inch or two further along miss the veneer entirely, and an inch or two further along from that make a groove or cut in the veneer of unequal depth. So that, when the box was folded at that corner it would not be cut enough in some places to make a corner at all and in other

places would leave a hole in the box. And the knives were continually cutting the wires on the stapler and would last but a short time, possibly seventy-five or a hundred blanks, when it would be necessary, to do good work at all, to take the cutters out of the machine and sharpen them, on account of their cutting through the wires. This would take perhaps an hour or two, perhaps several hours.

* * * * *

R., Vol. II, p. 769:

"I was present at the time Mr. Rosback threw up the job. At the time Mr. Rosback quit there was some question arose between Mr. Rosback and myself regarding the final test of the machine under his guarantee, and a question also of our paying an additional bill, which he had presented for some work done in his shop. Mr. Rosback admitted in this interview—he said during this interview that *he could not make the test of two hundred boxes running consecutively in half a day*, and that he would give up the job and go home. After Mr. Rosback went home Mr. Lavenberg worked with the machines until in August sometime and *was unable to get any work out of them or remedy their defects*, and we also employed Mr. Brown of St. Joseph, Michigan, a mechanical expert, to come over there and suggest means of fixing the machines so that they would run. We had Mr. Eeklund come over for the same purpose.

"That is the Mr. Brown and Mr. Eeklund of the St. Joseph Iron Works, and we also had Mr. Howard of the St. Joseph Iron Works over to South Bend, trying to get the *machines* so that they could be operated to make boxes, but Mr. Howard was unsuccessful. We also had a Mr. Green, who represented himself to be a good man at mechanical matters, and a machinist. Mr. Green was unable to make the machines work. Mr. Brown came over the first time in the latter part of May, and Mr. Brown came over the second time in the latter part of June, and Mr. Eeklund came with Mr. Brown the second time. I believe Mr. Eeklund

came over again; I don't remember the date. And Mr. Howard came over—I don't remember when Mr. Howard came, but he came to attach the Brown stapler heads to the Rosback machines to see if he could get it to work by using them.

* * * * *

"As to what became of the Rosback machines that were shipped down here, the step-mitre machine and the nailing machine were given by Mr. Healy to Mr. Lavenberg's son to *sell for junk*, and he sold them to the scrap iron man, and the box-blank machine *was dismantled* and is standing in one corner of the factory of the South Bend Healy Box Company or the National Wire Bound Box Company, I should say."

And upon that background, as Mr. Inwood explains (R., Vol. II, p. 772), the Inwood & Lavenberg inventions, covered in the patents in suit, were made.

Besides Healy and Inwood, and in ample corroboration of them, the transcript contains the depositions of John L. Clough (R., Vol. II, p. 856), Charles E. Russ (*id.*, p. 874), Benjamin F. Masters (*id.*, p. 881), Henry Stephens (*id.*, p. 889), Lavenberg (*id.*, p. 804), one of the inventors of the patents in suit, Samuel M. Robinson (*id.*, p. 815), all of whom had close contemporaneous acquaintance with the experiments preceding the Inwood & Lavenberg inventions and who uniformly confirm, in one aspect or another, the evidence quoted above from the testimony of Healy and Inwood. And there is no testimony contradictory of that shown above.

The point of controlling importance is, precisely as found by Judge RAYMOND, that throughout the ten-year history preceding the Inwood and Lavenberg inventions (quoting Judge RAYMOND):

"The substantial obstacles encountered, however, were *the impossibility of automatic or partly automatic* production. * * *"

This "impossibility of automatic or partly automatic production" was due, obviously, to the inability of the prior inventors to develop machinery capable of producing box blanks upon any commercial scale. In other words, the *machinery* problems remained unsolved at the time of Inwood and Lavenberg's entry into the field. In the old Healy title suit, on the strength of a large volume of evidence, the Master found (and these findings were not excepted to) that Rosback's efforts to improve the machines "so that the same would work successfully were without avail" up until June 8, 1904 (R., Vol. II, p. 705, Finding 34); and "It became apparent in the latter part of May, 1904, that Rosback could not so repair the large set of Rosback machines as to make them suitable or useful for making sample boxes" (*ibid.*, Finding 40).

When Inwood and Lavenberg first entered the field, the scored veneer box was considered the ideal product and its commercial practicability was not questioned (Healy, R., Vol. II, p. 825; Stephens, *id.*, p. 893). In the old Healy title suit, the Master, after discussing (1) the box of the Howenstine patent, (2) the bent veneer box of the Rosback type, and (3) the lap-corner box of the Inwood and Lavenberg reissue patent, found (R., Vol. I, p. 453):

> "*Each* of the three styles of boxes above mentioned have been used commercially and are *commercial boxes*, but the lapped box except in specialties that require intercellular ends for circulation of air inside the box, is superior to the other forms of box and will, with the trade, supersede the other forms of box."

Hence, the only recognized problems, at the outset, were those of *machine* design. But the prior art inventors never succeeded in devising machines that would produce usable scored veneer blanks upon a commercial scale. The boxes had to be "*tinkered*" *and finished by hand*, a recourse that would be prohibitive in commercial operations. This is made clear by the undisputed testimony of Mr. Inwood

given in 1905 in the old Healy title litigation. For example, Mr. Inwood testified (R., Vol. II, p. 766):

> "There was never a box made on the Rosback machines; the boxes were all *tinkered with and finished by hand.*"

Again (*id.*, p. 783):

> "We were trying to make boxes on the Rosback machines, making part on the Rosback and *finishing them up by hand;* * * * We picked out a few of the boxes which were fit to sell, and sold them to the Russ Manufacturing Company. * * * I should say about eight hundred, as near as I can remember."

Again (*id.*, p. 803):

> "Mr. Russ bought a large lot of the boxes for about one-half or one-third of the price that we were getting for good boxes of that size. Those were not lapped boxes; they were made on the Rosback machine and *tinkered over by hand* and the best ones selected out."

This emphasizes the fact that the prior art inventors failed utterly in their efforts to produce any practical *machinery* for making wirebound boxes.

It seems impossible, in the face of this history of prior art failure, that any valid defense can be founded upon the activities or the patents of Stephens, Howenstine, Healy, Knudtson & Uhri, Uhri, Rosback or Flora, which are mainly relied upon by defendant.

For more than ten years, the Rosback series of inventors had tried to find machinery by which to make box blanks incorporating thin veneer side material, eight cleats, and binding wires. They had failed, as found by all the Courts. They had persistently adhered to the plan of using first a blank machine for making a *rigid* blank and then, on a second machine, producing foldable cleat relationships by *cutting* operations.

Inwood and Lavenberg achieved immediate success by rejecting that plan and producing foldable cleat relationships upon a *single* machine, by *preforming* the cleats, *assembling* them in foldable relationship and *then wiring them together* to perpetuate those relationships.

If the mechanical expedients invented by Inwood and Lavenberg had been within the reach of those skilled in the prior art, it is impossible that the discovery of those expedients would have awaited Inwood and Lavenberg.

The evidence showing the unsuccessful efforts of Rosback and Mr. Healy and his associates is here of greatest importance.

Ordinarily, in patent litigation, the collective informative value of two or more prior art patents placed together before a skilled mechanic, is largely a matter of conjecture. It is oftentimes a difficult question whether the combined disclosures of several such patents would sufficiently enlighten a skilled mechanic to enable him, without the exercise of invention, to produce the alleged invention in controversy. This difficulty is often encountered because the prior art patents, though *constructively* known to everyone in the art, are usually not proved to have been known, in fact, collectively, to anyone. Therefore the *actual* effect of combining their disclosures is problematical.

In the present situation, however, no such difficulty is encountered because the patents principally relied upon by the defendant were known and experimented with for years by Mr. Healy and his predecessors and associates, including a succession of prolific inventors. All the inventions of Howenstine, Knudtson & Uhri, Uhri, Rosback, and Flora, *were cumulated in actual experience*, but their cumulative effect left the art in 1904 in the same hopelessly stagnant condition in which it had remained for more than ten years.

Healy testified (R., Vol. II, p. 735):

> "At the time Mr. Rosback and Mr. Flora [those of latest date in the succession of prior art inventors]

were experimenting they had access to my patents on my machines and everything that I had accomplished in the way of patents on machines for the improvements on wirebound boxes from which to work to make their improvements. They were never able to accomplish anything so far as making *commercial machines* was concerned."

The other patents cited by defendant were not literally before Mr. Healy's series of inventors; but the fact remains that the consensus of knowledge in the entire box art did not enable anyone to anticipate nor remotely suggest Inwood and Lavenberg's inventions.

The futility of the Knudtson & Uhri, Uhri, Rosback and Flora inventions, here proved as *historical fact*, would have to be totally ignored if we were to conclude that they taught enough to enable a mere mechanic to produce the inventions of the patents in suit. It is the established *fact* that they did not teach enough. All that defendant advances to the contrary are partisan arguments of counsel and one expert witness who simply speculate, in the light of their *present knowledge*, upon what the prior art *might have done* (but was never able to do) in order to produce the Inwood & Lavenberg inventions.

In the foregoing discussion of the historical background we find the basis for those remarks in the opinions of both Judge RAYMOND and Judge LINDLEY crediting the meritorious advance accomplished by the Inwood and Lavenberg method, when compared with the prior art.

The prior art inventors had striven for more than ten years to produce foldable relationships of *eight cleats* in a wired foldable blank; and the best they could do was to produce a rigid blank upon one machine, and then employ a second and complicated step-mitering machine for *cutting* the long cleat strips into individual cleats and thereby producing the foldable cleat relationships by a *cutting* operation.

As compared with that practice, Inwood and Lavenberg injected into the art a radically new concept of *cleat* treatment: that of preforming the cleats, assembling and mechanically positioning them in foldable relationships, and perpetuating those relationships by the wire attaching operation. The starting point of their method and the subsequent steps were fundamentally different from those of the prior art.

Upon the background of events described above, Inwood and Lavenberg developed their inventions in the manner narrated in the next following chapter.

History of Development of the Inwood and Lavenberg Inventions.

In earlier briefs, Respondents' counsel referred to the several inventions of the method, machines, and lap-corner box as having been made contemporaneously or substantially so. In a broad sense, the inventions were contemporaneous; they were all made within a period of less than three months. And all were developed as a part of Inwood and Lavenberg's effort to establish a commercial enterprise upon the ashes, so to speak, of the preceding failures of Rosback and his predecessors and associates.

Since, however, Judge RAYMOND seems to consider the lap-corner box invention as co-ordinate with and having some damaging effect upon the method and machine patents, and disparages the machine inventions by reference to the method invention, and since Judge LINDLEY uses the box invention to destroy the method and machine inventions,—it now appears that the precise status of each invention must be made clear so that each may be measured upon its own merits in relation to the others and to the prior art. The next following discussion is devoted to this purpose.

We show that the method and machine inventions, on the one hand, and the lap-corner box invention, on the other

hand, pertained to wholly different and independent *fields of invention*. The former were in the field of *cleat* treatment without regard to whatever species and arrangement of side material might be selected for use in the product. The lap-corner box invention was in the distinct field of *side material* treatment regardless of the way of producing cleats which might be employed.

To be sure, the inventions in these two distinct fields might be co-ordinated; the *cleat* treatment of the method and machine inventions might be conjoined with the *side material* treatment of the lap-corner box invention; and this has actually occurred in the commercial practices of both plaintiffs and defendant. But also, the *cleat* treatment of the method and machines has been conjoined with several other species of *side material* treatment, none of which involves the lap-corner box invention. And the *side material* treatment employing the lap-corner box invention can be conjoined with other methods of *cleat* treatment, none of which involves that invented by Inwood and Lavenberg.

We show also that the generic machine invention had been completed some time *prior* to the invention of the lap-corner box. If the latter had never been invented, the contribution of the generic machinery would have revolutionized the practices of the art.

We shall indicate the manner in which Inwood and Lavenberg developed, first, their inventions in *cleat* treatment claimed in the machine patent here in suit, and then separately and subsequently made their specific invention in *side material* treatment embodied in the lap-corner box of the reissued box patent.

Source of the Historical Evidence.

The evidence showing the history of the Inwood and Lavenberg inventions is taken from the record in *William*

P. Healy v. *National Wire Bound Box Company, Inwood, Lavenberg, Robinson and others*, already mentioned. The decision on appeal is reported at 189 Fed. 49. For brevity we shall refer to this old suit as the "Healy title suit."

The transcript on appeal in the Healy title suit has been put in evidence in the present suit, by stipulation, as a physical exhibit, embraced in Defendants' Exhibit 17, and is before this Court as a physical exhibit. The pertinent parts of that record, however, have been reproduced in narrative form, in the transcript on this appeal, and by stipulation (R., Vol. I, p. 45) the testimony taken from that record has the full force and effect of testimony in this cause, subject only to objections to materiality and relevancy.

It is noteworthy that the testimony taken from the Healy title suit, was given by deposition at various dates in the latter part of *1905* when the critical events of the spring and summer of 1904 must have been freshly recollected by the witnesses. Furthermore, we rely upon the mutually corroborative testimony of *adversaries* in the Healy title suit; when these adversaries agree (as they do in all material respects) the evidence carries conviction. Those witnesses are nowhere disputed in the present record.

In the Healy title suit, the issues related to title, fiduciary obligations, *et cetera*, and the Court of Appeals eventually found that neither side had been wholly to blame or responsible for the misunderstandings which had arisen (189 Fed. 60). No now pertinent issues of infringement or validity were involved in that suit. Hence the significance of the testimony today, in its bearing upon the present issues, can be accepted as uncolored and of the highest credibility.

The pertinent history is testified to by William P. Healy, Norman E. Brown, Inwood, Lavenberg, Samuel M. Robinson, and others, and their testimony is reduced to narrative form in the transcript.

The Historical Narrative.

As a preliminary, we review briefly the status of the *products* sought to be made in the art. This will help to make clear the respective statuses of the machine in suit and the lap-corner box invention, and their true relationship to each other.

The Products.

Both Judge RAYMOND and Judge LINDLEY misunderstood the status of the lap-corner box of the reissue patent. It was the first flexible and elastic box ever known in the art, and the reissue patent was sustained on that ground by his Honor Judge SANBORN in the Northern District of Illinois (*Wirebounds Patents Co., et al.* v. *Chicago Mill & Lumber Co.*, 238 Fed. 929).

But, similarly, the Rosback bent veneer box was the first true wirebound box in the art and was decidedly better than any other known box, up to the time the lap-corner box was devised.

The Rosback box embodied that fundamental co-ordination of thin veneer, cleats, binding wires and staples, which has always characterized wirebound boxes, including the lap-corner box. This co-ordination of parts was broadly new in the Rosback box and it yielded generic advantages of relatively cheap wooden elements to which the stapled wire binding contributed great strength and tenacity; and those advantages were fully recognized and utilized before the lap-corner box was invented, as presently shown.

When this Rosback box was first devised, those attempting to make it were confronted by problems wholly different from any previously encountered in the broad box art.

Theretofore, boxes had been made generally of relatively heavy lumber, and it sufficed simply to nail heavy side sheets to rigid ends and to rely upon the security of attachment of wood to wood by nails to supply the ultimate strength of the box. Some of these early boxes were rein-

forced by wires or straps, applied after the manner of a trunk strap, but all were characterized by the attachment of wooden sides to wooden ends by nails or their equivalents.

When, however, it was attempted to make the Rosback type of box by co-ordinating *very thin* veneer with wires and cleats, so that the wires might substitute, so to speak, for the omitted thickness of lumber ordinarily used, entirely new problems developed and a new box making technique was evidently called for. The prior art practice of making rigid ends (cleated or not) and simply nailing the sides thereto would no longer suffice, because the thin veneer sides were too fragile to be held securely by a mere nailing attachment.

In trying to cope with these new problems involved in using the thin veneer for the sides, Knudtson and Uhri (the earliest in the series of the so-called Rosback inventors) evidently conceived that the box sides should be formed of a continuous sheet bent over the box corners and supplying an integral connection from one side to the next to contribute an element of strength tending to compensate for the omission of the thick lumber sides usually employed. And they added the stiffening and strengthening cleats and the wire bindings and attached the wires by staples straddling them, passing through the side sheets and anchoring in the cleats. This method incorporated the cleats with the thin veneer sides.

The new bent veneer box thus designed, to carry out the unique plan of co-ordinating very thin veneer with cleats and wires, was always considered, and proved in fact to be, an extremely strong box, even stronger than ordinary nailed boxes made with several times the thickness of side material.

Since about 1893, the superiority of the Rosback box had been recognized and the efforts of the succession of Rosback inventors had been devoted to attempts to devise *machinery* by which to make that box commercially. The

box itself, as a product, was considered highly satisfactory because of its great strength, and in spite of the difficulty sometimes experienced in the cracking of the veneer where it was bent over the box corners.

For example, the witness Henry Stephens had been a manufacturer of boxes since 1868 (R., Vol. II, p. 889) and was secretary of the Box Manufacturers Association. He was one of the pioneers in the wirebound box field having begun the making of the so-called Rosback bent veneer box, in association with Howenstine and Uhri, in 1891 (*ibid*, p. 890). After describing this bent veneer box, Mr. Stephens testified (*ibid*, p. 891):

> "After these scored veneer boxes were folded, in some cases the veneer would split clear through this V-shape that had been cut in the veneer, leaving an opening in places. In other words, it was not a real tight box. At that time I considered the box a strong box. I advocated that it was a very strong box for the thickness of the lumber that was used in making it. I contended that it was much stronger than the ordinary box. In fact, I made a test in a crude sort of a way that satisfied my mind that it was an unusually strong box. To test the box, I made a double cleat $\frac{7}{8}$" box [an ordinary nailed box as presently appears] for a hardware concern and filled it up with a lot of fire brick that came from beneath the boiler in Uhri's shop, the only material we had there, this fire clay brick, you know, in pieces, and shoveled it right into the box, and put the same amount—if I recollect right, it was about two hundred and eighty pounds—and we filled one of the new boxes [the bent veneer box] with the same material and of the same weight. The shop being on the second floor of the building, fronting on an alley, we threw the boxes out of this window down into an alley. In other words, tipped them off the window ledge to see what the result would be. The result was that the seven-eighth box split all to pieces and the stuff all came out. The wirebound box was a little bit out of shape but the material was

all inside, it lost none of its material. So with that kind of a test it convinced me that it was a stronger box than the seven eighth box.

"Q. 40. By the seven eighth box you have referred to do you mean an ordinary nailed box made out of seven eighth inch lumber?

"A. Yes, speaking of the thickness of the material ordinary nailed box, a seven eighth nailed box is supposed to be as strong a box as you can make of lumber."

Further on Mr. Stephens said (*ibid*, p. 893):

"I considered the South Bend scored veneer boxes practical and a good commercial proposition as far as the box was concerned; I did not consider the *machinery* as being perfect."

Again Mr. Stephens testified (*ibid*, p. 894):

"Some of my boxes were used in shipping goods and the goods reached the consignee in good condition. The reason I know that is because of a peculiar circumstance. I was making boxes for a large hardware concern, called the Allen Manufacturing Company, and they used mostly the heavy *seven-eighths* [inch] nailed box, but they were making very long shipments away out to Seattle and Portland, all those places, and I said to Mr. Crane, who was one of the partners, that I had a new kind of box that I would like to have him try and when I showed him the box he laughed at the idea that *three-sixteenths* [inch] veneer would carry hardware, perfectly ridiculous to his mind. Well, I went on to explain to him that the box was a much stronger box than it appeared to be, and I asked him if he would not, as a favor, ship ten or fifteen of these boxes to his furthest shipment and I would take the responsibility for any unusual damage that might occur, or all damages over and above the ordinary damages that occur with nailed boxes, and being a friend of mine he condescended to do it. He did so, and it was quite a while before we got returns but we heard from it and I was

> in there every day or two getting orders for making these other boxes and he called me up to his desk and said: 'Well, Stephens, I have heard from those boxes.' I said: 'Yes?' He says, 'They are all right.' He says, 'It is a big surprise to me. They told me the boxes arrived there better than any boxes they ever had. The difference in the freight was considerable.' I have forgotten what it was. He said: 'When you get *ready to make boxes* we will do business with you.' That is how I recollect that particular circumstance of what the conditions were after they arrived."

And Mr. Stephens said (*ibid*, p. 895) that the experience just described occurred about two years after his first arrangement with Mr. Howenstine (June 6, 1891, *ibid*, p. 889). Hence, as early as 1893, the Rosback box was considered a highly valuable product, in spite of the tendency of the veneer to split at the box corners.

Because of the evident superiority of the bent veneer box, first Stephens and then William P. Healy and others, with the series of inventors including Rosback, spent more than ten years in trying to devise machinery for making precisely that box which was the only wirebound box then known. Healy told (R., Vol. II, p. 733) of spending $62,000 in the effort and he said (*ibid*, p. 715):

> "My efforts were continuous, expending money all the time in trying *to perfect a set of machines* to build wirebound boxes."

Healy testified further (*ibid*, p. 735):

> "At the time Mr. Rosback and Mr. Flora were experimenting they had access to my patents on my machines and everything that I had accomplished in the way of patents on machines for the improvements on wirebound boxes from which to work to make their improvements. They were never able to accomplish anything so far as making *commercial machines* was concerned."

And all this related to the attempted manufacture of the bent veneer box. The deficiencies were in the *machinery*. The box was considered a superior and valuable product, because of its cheapness and great strength and toughness.

In the old Healy title suit, the Master made pertinent findings summarizing the historical testimony on this subject (R., Vol. I, p. 453). After describing (1) Howenstine box with intercellular ends, (2) the bent veneer box, and (3) the lap-corner box, the Master's finding was:

> "Each of the three styles of boxes above mentioned have been used commercially and *are commercial boxes*, but the lapped box except in specialties that require intercellular ends for circulation of air inside the box, is superior to the other forms of box and will, with the trade, supersede the other forms of box.
>
> "Finding 28. Up to the first week in July, 1904, the creased [*i. e.*, scored] box with partly lapped corners (except the upper front corner which fully lapped) [this is simply the typical bent veneer box] was manufactured by the South Bend Healy Box Company. About July 2d or 3d, 1904, the defendant Lavenberg completed a cheap step-mitre machine, or saw table [for *preforming* the cleats] at a cost of about $100 for the South Bend Healy Box Company, and he also made a former [the workholder for positioning the preformed cleats] for the Rosback box-blank machines; and said two new machines were both put into use by the South Bend Healy Box Company and the Rosback step-mitre machine was discarded. The lapped box, the invention of which is one of the matters in dispute in this case, was *thereafter* made by the South Bend Healy Box Company, and the manufacture of a creased box [the bent veneer box] ceased. About 800 sample boxes, *both creased and lapped*, were made before August 31, 1904, by the South Bend Healy Box Company, and sold to a consumer in South Bend, Indiana, who used them in his business."

Thus the month of July, 1904, marked the transition from the making of the bent veneer box to the making of

the lap-corner box. At a later point it will be shown that the lap-corner box was invented about July 8, 1904, and up to that time the bent veneer box was the only wire-bound box known in the art. And when the lap-corner box was first made known, there arose the question whether it should be adopted as a commercial product to replace the bent veneer box. This is indicated in a contemporaneous letter of July 11, 1904, written to Mr. Healy by Mr. Inwood, and containing the following (R., Vol. II, p. 727):

> "In reply to yours of 10th inst. we are sending you by express a small Russ box made on the new step mitre and former. In this box the *tops and bottoms are lapped* instead of being creased and folded [*i. e.*, scored and bent]. You can look the box over and kindly write us as to your opinion on making the boxes this way. *We can make them either way* but the sample sent you saves one step in the manufacture, viz: the cutting of the crease and as the corners are always square, it adds to the appearance of the box."

This is of critical importance as demonstrating Inwood's recognition that his new former or workholder (already previously used for making the bent veneer box) could be used for making either the "creased" or bent veneer box, or the new lap-corner box; and there remained simply the election of one product or the other, and Inwood perceived some advantages in adopting the lap-corner box.

One of the reasons for the ultimate preference for the lap-corner box appears from Inwood's testimony as follows (*ibid*, R., Vol. II, p. 848):

> "When I was working for Mr. Flora, I did state to different parties that I did consider the boxes [bent veneer] commercial and salable, and I did so consider them at that time because I was told by Mr. Flora and Mr. Healy both that it was commercial, and it looked commercial.
>
> "However, in attempting to dispose of the boxes in South Bend I found that there were objections to it

which I had not known of while working for Mr. Flora; that the veneer would open at the corners and the corners would be rounded, and for those reasons many different parties refused to use the box commercially."

In other words, for some purposes the bent veneer box was inferior, where tight and square corners were required, although as indicated in Mr. Stephens' testimony quoted above, the bent veneer box was extraordinarily strong and highly suitable for transporting such things as hardware and the like.

It appears, therefore, that the history of the wirebound box *product* may be summarized thus: From about 1891 to July 8, 1904, the Rosback bent veneer box was the only wirebound box known in the art; it was considered commercially practicable and valuable; and much money and effort were expended in attempts to devise *machinery* for producing this box commercially. Then about July 8, 1904, the lap-corner box was invented and presently adopted as the preferred product.

The Rosback box co-ordinated the continuous sheet of thin veneer and wire binding, with eight step-mitered cleats arranged in foldable relationships,—the same cleats in the same relationships later adopted for co-ordination with sectional pieces of thin veneer in the lap-corner box.

When the lap-corner box came into existence it was simply an improvement upon the Rosback box, combining *the same cleats and cleat relationships* of the Rosback box with the new sectional veneer sheets, still yielding the generic advantages of the Rosback box while adding thereto only those improvements attributable to the difference between the old continuous veneer sheet and the new lap-corner sectional sheets.

Inwood and Lavenberg made their machine invention *for the purpose of producing the Rosback bent veneer box*, and at a time when the lap-corner box was not in existence; and then exactly the same machine continued in use for

making the later invented lap-corner box, with no change whatever except by a non-essential added refinement in the sheet positioning fins which were superposed upon the cleat positioning blocks to assist in holding the sectional side sheets in place.

We emphasize the point just made to avoid here a confusion into which both Judge RAYMOND and Judge LINDLEY apparently fell. Both of them seem to have assumed that the method and machine inventions were initially devoted to the making of the lap-corner box, when, in fact, they were first invented for and applied to the making of the bent veneer box. Hence, the machine invention has the *senior* status, separate and distinct from the box invention.

The Inwood and Lavenberg Machine.

As to the machine invention, the evidence develops the following narrative:

About March, 1904, Inwood and Lavenberg became financially involved in the wirebound box experiments of Healy, Rosback and their associates (R., Vol. II, p. 718), on the assumption that the bent veneer box was a highly desirable commercial product (*id.*, p. 848) and that commercially practicable machinery could be devised for making the box, although none had succeeded in doing so up to that time (*id.*, p. 734). The problems at first recognized by Inwood and Lavenberg were strictly *machine* problems (*id.*, p. 766 *et seq.*); they did not question the suitability of the Rosback bent veneer box.

Inwood and Lavenberg (with others) organized, about April 25, 1904, the South Bend Healy Box Corporation, which obtained a license from Mr. Healy, and a plant in South Bend, Indiana (R., Vol. II, p. 721), to which was shipped the large set of machines designed by Rosback, an inventor of long experience in the wirebound box machinery experiments (*id.*). When the machinery was set up at South Bend, Rosback was employed under contract to get it into running order and to reach a certain minimum

production (*id.*, p. 766 *et seq.*). This Rosback machinery consisted of (1) a blank machine for producing the rigid blank of the long cleat strips, the long veneer sheets and the stapled wires; (2) a gang step-mitering machine for converting the rigid blank into a foldable cleated blank by severing and step-mitering the cleat strips, etc.; and (3) a so-called "nailing machine" by which box ends could be fastened to the insides of the cleats after the blank had been produced on the other two machines and had been folded in box form (*id.*).

Rosback earnestly and diligently endeavored to make these machines work (*id.*), but it soon became apparent to everyone including Inwood and Lavenberg, that he must fail (R., Vol. II, p. 782). No criticism attached to the bent veneer box which they were trying to make. But it became more and more evident that the Rosback *machinery* could not be made sucessful. Several mechanical experts were called in consultation (R., Vol. II, p. 769). The inventor Flora had already been employed for some years to design suitable machinery (*id.*, p. 757). No one was able to suggest a way to make the Rosback machines operate and they were junked (*id.*, p. 769). The imperfect blanks that issued from the machines required to be "tinkered by hand" before they were usable (*id.*, p. 782). Early in June, 1904, Rosback abandoned his hopeless efforts and withdrew "in disgust" (*id.*, p. 806).

From the viewpoint of Inwood and Lavenberg, something must be done. The Rosback machines being evidently doomed to failure, new machines must be devised. Inwood and Lavenberg set about to do so. Still they remained content with the intended product—the bent veneer Rosback box—and they perceived no problem beyond the need to produce efficient machinery for making that box. (R., Vol. II, p. 766 *et seq.*)

After many discussions and investigation of stapling mechanisms used for other purposes, Inwood and Lavenberg finally devised their first wirebound box-blank machine intended for making the *bent veneer* blank.

Mr. Inwood testified (R., Vol. II, p. 772):

"Mr. Lavenberg and myself daily planned out a practical box blank machine, and on or about between the 21st and 24th of May [1904] Mr. Healy and myself went to St. Joe again, and in the office of the company, in the presence of Mr. Healy, I gave to Mr. Hatch and Mr. Brown [officers of the St. Joseph Iron Works] the details of the machine we wanted made, which was a machine similar to the one they finally delivered to us, except that *no former or workholder was used*, but a chain-feed was to be employed, and *the blank was to be made similar to the blank made by the Rosback machine*. I mean by that that the blank would come out from the machine *one solid board with the cleats running the full length of the board not step-mitered or scored*. Mr. Lavenberg and myself prepared these details, which were delivered to the St. Joe Iron Works."

Thus, as early as the 24th of May, 1904, Inwood and Lavenberg had designed their first blank machine and it was for making *typical Rosback rigid blanks*.

Lavenberg testified (Trans., Vol. II, p. 808):

"Q. When, if at all, did you yourself, or together with Mr. Inwood, take up the matter of preparing plans for a box-blank machine?

"A. It was on the night of the 12th of May, 1904, in front of my home.

"Q. State what was done at that time with reference to planning for a box-blank machine.

"A. Mr. Inwood, along with Mr. Healy, came to my house. We stood out in front of the gate. Mr. Inwood described a stitcher, giving his idea of how we could best arrange a machine, as he thought, for the purpose of making the box-blanks. After discussing this question for some time, he and Mr. Healy left together.

"The next day, and for a number of days after that we discussed the box-blank machine quite often, and made different sketches for the purpose of making and assembling a machine that we thought would work.

"Our first idea was that we would use the endless chain with long cleats [*i. e.*, the typical Rosback long cleat strips]."

Mr. Robinson testified (R., Vol. II, p. 817):

"Q. Well, what was done, if anything, to make the business a success?

"A. Along sometime in the latter part of May I believe there was an order placed by the South Bend Healy Box Company; that is it was placed for the South Bend Healy Box Company by Mr. Inwood with the St. Joseph Iron Works for a machine that he and Mr. Lavenberg had conceived the ideas of. This machine would make the *blanks the same as the Rosback machine* [*i. e.*, the rigid blank with the long cleat strips]."

Up to this point in the history, Inwood and Lavenberg had devised nothing importantly new. They had adhered to the traditions of their predecessors and were still attempting to make the Rosback box utilizing first the blank machine for making the *rigid* wired blank, and second the step-mitering machine which converted the rigid blank into a foldable blank. Thus far their concept of needed improvement had been confined to mechanical details of the blank machine while adhering to the Rosback procedure.

Presently, however, they made their fundamental and revolutionary inventions which were destined to solve the machine problem. In the face of the preceding ten years of adherence to the long cleat strips of the Rosback rigid blank, and the method of rendering the blank foldable by the cleat cutting operation,—Inwood and Lavenberg conceived the idea of preforming and finishing each individual *cleat* and positioning the cleats in foldable relationships and then perpetuating those relationships by the attachment of the binding wires.

The early consideration of the cleat preforming method was testified to by Inwood thus (R., Vol. II, p. 773):

"Q. Let me ask you again; I don't know that you understood my question a while ago; perhaps I did

not understand your answer. Was there any discussion between you and Mr. Lavenberg prior to the time [May 27, 1904] that you gave the final order for the machine to the St. Joe Iron Works with regard to step-mitering the cleats before they were fed into the machine with the veneer?

"A. Well, yes. The idea had been suggested of doing this, and this idea was suggested to Mr. Brown on that visit [May 21 to 24, 1904] of step-mitering the cleats, but was disregarded as being *impracticable* or *impossible of operation,* and while *it came up two or three times*, was always passed over as *impracticable.*"

In fact, considerable thought must have been given, prior to the first order for the St. Joe machine on May 27, 1904, to the possibility of preforming the cleats and assembling them in foldable relationships, because Inwood and Lavenberg had already planned a former or workholder about May 6, 1904, had described it to Healy about May 12, 1904, and to Brown of the St. Joseph Iron Works about May 25, 1904, all as indicated by the inscription (attested by a notary public on June 15, 1904) on Inwood's drawing, made and dated June 14, 1904), hereinafter referred to (*post*, p. 45; the drawing itself is reproduced opposite page 766 of the record, and the inscription is quoted in full, *post*, p. 48).

In spite, however, of the concept and disclosure *early in May*, not only of the method idea but of the mechanical former (later actually used), the practicability of that method and former were so *unobvious* that the ideas were rejected as "impracticable or impossible of operation" and we find Inwood, subsequently, as late as May 27, 1904, ordering the first form of St. Joe machine by which to make the *Rosback rigid blank* with the long cleat strips.

This evidence—wholly undisputed—is of the utmost importance. It shows that both the method of preforming the cleats and also the workholder had been considered and discussed but had been several times rejected, as "impracticable or impossible of operation," by several men skilled

in the art; not only by Inwood and Lavenberg, but also by Healy, who had worked in the art for about ten years, and by Brown, referred to in Inwood's testimony just quoted, who was of the St. Joe Iron Works, and was a mechanical expert (R., Vol. II, p. 769).

For ten years or more Rosback and his predecessors and associates had been trying to find a way to produce foldable wired blanks equipped with *eight step-mitered individual cleats in foldable relationships*. Then Inwood and Lavenberg suggested the producing of those *same relationships* by preforming the individual cleats and assembling them in the workholder, but the ideas thus proposed were rejected as impracticable,—most striking *proof* that the idea, in both method and machine aspects, was *not* obvious nor within mere mechanical skill.

And the fact that the method idea, although obviously performable by hand, was rejected as being "impracticable or impossible *of operation*" means that those skilled in the art considered that it could not be practiced *mechanically*. Hence, the evidence explicitly rebuts Judge Raymond's suggestion that the mechanism emerged obviously, once the method had been disclosed.

At that time, the Rosback machine with the feeding chains, and the pushers thereon for pushing through the machine the long cleat strips, had been in the art for years and was well known to Healy and Inwood and Lavenberg and to Brown (who had been called in consultation in the attempts to make the Rosback machine work; R., Vol. II, pp. 749, 769). In spite of the knowledge of the Rosback machine possessed by Healy, Inwood, Lavenberg and Brown, and in spite of the repeated suggestion to preform the cleats and use the workholder, the idea was still rejected as impracticable.

It was not obvious to Healy or Brown or Inwood or Lavenberg, who were thoroughly skilled in the art, that the proposed preformed cleats could be positioned upon the Rosback machine by adding to its feed chains "the extra

pushers" as suggested by Judge RAYMOND. The total unobviousness and the supposed impracticability of doing any such thing is established by the evidence as *historical fact*. It is not open to speculation. There is no dispute in the evidence as to these historical facts, nor is there the slightest reason or excuse for failing to accept those facts.

It is incredible that Judge RAYMOND could have appreciated this evidence, else His Honor could not have said (R., Vol. II, p. 1163):

> "It appears to the Court that as soon as the *method disclosed in the box patent* was divulged it became obvious to those familiar with the prior Rosback inventions that in order to produce the Inwood and Lavenberg box blank it would be necessary only to add the extra pushers called for by the extra pieces of a different form of blank, and that so to do was a matter merely of the exercise of ordinary mechanical skill."

What was the "method disclosed in the box patent"? Judge RAYMOND, in his opinion, quotes the description thereof from the box patent (R., Vol. II, p. 1159), as follows:

> " 'Our invention relates to certain improvements in wirebound boxes, especially of that class in which the blanks constituting the four sides of the box are assembled and secured in relative position to each other prior to folding by reinforcing wires, and has for its object the assembling and fastening together such parts constituting the completed blank so that the same when folded will produce overlapping edges of the side sheets or boards, the advantages of which will be hereafter pointed out.' "

As pointed out by Judge RAYMOND (*ibid.*) this supposed statement of method is contrasted in the box patent specification with a description of the old Rosback method involving the rigid blank and the subsequent step-mitered cleats and scored sheets.

But that statement of novel method in the box patent (if it be considered a method disclosure at all) is nowhere near so explicit in suggesting preformed cleats to be assembled in foldable relationship in a workholder, as were the suggestions shown in Inwood's drawing and discussed by Healy and Inwood and Lavenberg and Brown, who had full knowledge of the Rosback machine and at the time, May, 1904, were under the strongest inducement to produce a workable blank machine.

Thus what appeared to Judge RAYMOND to have been the obvious development of the machine inventions upon disclosure of the method idea, is definitely proved to have been not only unobvious but supposedly "impracticable or impossible of operation" in the view of those who were actually skilled in the art at the time.

In spite of their early rejection of the idea of preforming the cleats, the thought evidently persisted in the minds of Inwood and Lavenberg and eventually led to the adoption of the method and the "former" or workholder used for relatively positioning the preformed cleats.

Inwood testified (R., Vol. II, pp. 773, 774):

> "On the original order the plans and specifications for the machine ordered from the St. Joseph Iron Works did not provide for formers. The order was afterwards modified to use the former. By former I mean a workholder, which consisted of two long strips of channel iron of the right size to hold a cleat 15/16 by 3/4. The purpose of this former was to hold the cleats on [and] the veneer in the proper position to be passed under the stapling machine to be stapled. Workholder would be in my judgment the best term.
>
> "Q. What did you and Mr. Lavenberg do, if anything, after the delivery of the specifications to the St. Joe Iron Works and the ordering of the machines [May 27, 1904] with reference to experimenting on the matter of having a former or workholder in the machine?
>
> "A. The *discussion* between Mr. Lavenberg and

myself *in regard to the practicability of the former occurred almost daily,* from the time the machine was first ordered at St. Joe, and *we began experimenting* along that line *to test if the use of a former would be practicable.* We worked on this together, Mr. Lavenberg making wooden models of formers with which he experimented, and I made drawings during the time when the machine was ordered at St. Joe, until about the twentieth of June, when we figured that we had the problem of a former solved."

These discussions "in regard to the practicability of the former" and the experimenting "to test if the use of the former would be practicable,"—particularly in the light of the earlier rejection of the plan as "impossible of operation,"—must completely refute Judge RAYMOND's supposition that the production of a former by merely adding pushers to the Rosback machine was obvious and a mere matter of mechanical skill, once the method idea had been disclosed.

Mr. Lavenberg testified (R., Vol. II, p. 807):

"* * * when Mr. Rosback left the factory, he left the step-mitre [the Rosback machine for cutting the rigid blank] in bad condition. * * * After repairing the chain [of the step-mitre] a number of times we gave up the idea of trying to run the step-mitre machine. After which time I began to figure, along with Mr. Inwood in trying to make a step-mitre cleat *before* stitching [stapling] on to the veneer."

R., Vol. II, p. 808:

"Q. When did you commence building a step-mitre machine?

"A. I think along about the fifteenth, along there, of June, 1904, as near as I can remember."

R., Vol. II, p. 809:

"After Mr. Inwood and myself had begun to invent a former or workholder, Mr. Inwood was making draw-

ings at his home while I, at times, when I could best leave my other work, was experimenting with a former by which I could use a step-mitered cleat after being assembled in this workholder, and the veneer placed upon the cleat, we could convey the same through the machine in such a manner as to make a complete box-blank. We made quite a number of different designs of divided blocks, also different forms with channel and angle bars for the purpose of holding these cleats."

He says that while they were trying to use the Rosback machine (R., Vol. II, p. 813)—

"I think I made the former of wood, the first former I made, for the purpose of *spacing* off and assembling our cleats. * * * I think that [former] was made in June. * * * The former was one straight strip of wood, the length of which a box blank should be made, cutting our blocks which were step-mitered the same as cleats to be used on box blanks, cutting them sufficient lengths for the *spacing* of cleats on box blanks. These blocks were fastened on to the strips with nails. The formers were laid on a bench such as a carpenter or cabinet maker would use, the veneer being cut to width and nailed fast to the cleats with small brads in order to hold them in their places, while the wire for binding was stapled on by hand. After removing this blank from these formers and folding it, it made a perfect wirebound box."

Mr. Healy testified (R., Vol. II, p. 723):

"* * * Mr. Lavenberg * * * commenced to build a new step-mitre machine immediately after the factory was opened, probably about the 10th or 15th of May he commenced the building of a new step-mitre machine, and it did good work. It step-mitered the cleats *before they were put on the blanks*, which was different from the Rosback machine. * * * Mr. Rosback was there until the eighth of June. He got there about the first of May. The machine that Mr. Laven-

> berg built was put to the use of step-mitering the cleats before fastening to the blank."

The statements of Inwood and Lavenberg, on the one hand, and Mr. Healy, on the other hand, are not in precise agreement as to the date when Lavenberg began to make his cleat preforming step-mitering machine. Mr. Healy places the date as "probably about the 10th or 15th of May," while Inwood and Lavenberg agree that it was in June. However this may be, it is definitely fixed that the concept of preforming the individual cleats and assembling them in a workholder had been arrived at early in June, 1904, at the latest; and that was the concept which underlay all subsequent machine development by Inwood and Lavenberg.

Thus far the evidence has established that at some time prior to June 15, 1904, Inwood and Lavenberg had made their first important advance in the wirebound box art by inventing the method of preforming and assembling the *cleats*, and the "former" or workholder by which to position those cleats mechanically in foldable relationship. As Inwood testified (*supra*), by the 20th of June, 1904, "we figured that we had the problem of a former solved."

Inwood continues (R., Vol. II, p. 774):

> "On the 20th of June [1904] we took the model of the former which we had and the drawings which I had made to St. Joe, and ordered the machine there changed so as to use a former, and the machine was changed exactly according to our plans to use a former, and the former was made identically with our models, and the drawings which we took with us."

This "St. Joe" machine was not delivered until about September 1, 1904 (R., Vol. II, p. 777), and in the meantime Inwood and Lavenberg used the cleat positioning essentials of their workholder on the old Rosback machine for making, at first, the Rosback scored veneer blanks, as presently shown.

The construction of the formers, in their earliest embodiment, and the manner in which they were used, are shown in detail by the evidence.

The earliest former was illustrated in the record in *Wm. P. Healy* v. *National Wire Bound Box Company, et als.*, by Complainant's Exhibits K-1 and K-2. Unfortunately, those physical exhibits have not been preserved, but they are adequately described in the oral testimony. For instance, Inwood testified (R., Vol. II, p. 851:

> "K-1 and K-2 are models of the non-adjustable workholder or former built and invented by Mr. Lavenberg and myself,—built by Mr. Lavenberg and invented by Mr. Lavenberg and myself. * * *"
>
> * * * * *
>
> "The first use of the formers of which K-1 and K-2 are models, was to place the [preformed] cleats K-3 in the formers K-1 and K-2 as Mr. Healy has testified, and then to place over the former K-2, with their cleat segments therein, sheets of veneer which had been *scored by hand*, placing the sheets so that the scored portion would come where the corner of the box would be, and it was attempted to feed the formers and cleats and veneer through the machine, and thus save the work of the Rosback step-mitre machine. This experiment failed for the reason that the work could not be conveyed through the machine accurately enough to bring the scored portions in the proper place."

It is noteworthy here that the first employment of the new Inwood and Lavenberg workholder was devoted to the making of the bent veneer Rosback blank. No difficulty was found as to the *cleat* preforming and assembling method, nor as to the workholder; the difficulty related solely to locating the scores in the *veneer side material* at the proper places. At this juncture the new Inwood and Lavenberg workholder was actually in use for its intended purpose of *cleat positioning*.

Inwood's testimony continues (R., Vol. II, p. 851):

> "It was next attempted to use the formers and the cleat sections K-3 as described, placing each of the formers in the machine as Mr. Rosback had previously done with the long cleats and operate thereafter just as Mr. Rosback had done, relying upon the accuracy of the [Rosback] step-mitre machine to score the veneer in the proper place to fold and make round cornered boxes as had previously been done.
>
> "This experiment failed for the reason that the step-mitre machine could not be operated accurately enough to make the scored portion in the proper place."

Thus, Inwood and Lavenberg persisted in the use of their new workholder to make the Rosback bent veneer box; and the only difficulty encountered was apart from that new means of cleat positioning and related only to the imperfections of the old Rosback step-mitering machine which could not be relied upon to score successfully the veneer sheet which had been secured to the preformed cleats.

Here again Inwood and Lavenberg were using their new method and machine for *cleat* treatment successfully.

We have already pointed out Inwood's testimony that he and Mr. Lavenberg worked on these formers together,

> "Mr. Lavenberg making wooden models of formers with which he experimented and I made drawings during the time when the machine was ordered at St. Joe, until about the twentieth of June, when we figured that we had the problem of a former solved. On the 20th of June we took *the model* of the former which we had and the *drawings* which I had made to St. Joe, and ordered the machine there changed so as to use a former, and the machine was changed exactly according to our plans to use a former, and the former was made identically with our *models*, and the *drawings* which we took with us" (R., Vol. II, p. 774):

And Mr. Inwood said further (R., Vol. II, p. 853):

> "The former of which K-1 and K-2 are models was a part of the models I referred to in my testimony in chief [just quoted] as having been taken to Brown [of the St. Joseph Iron Works] to show him how the formers for the machine which he was building under my former was to be constructed."

Regarding the drawings taken, with the models, to St. Joe, Mr. Inwood testified (R., Vol. II, p. 775):

> "I prepared drawings of the adjustable and non-adjustable formers. They were shown to Mr. Healy. I had the drawings attested by a Notary Public, and they were shown to Mr. Healy after they were attested also. I have those drawings here. These are the two sheets of drawings of the former or workholder, and the model was like that (indicating on the drawings).
>
> * * * * *
>
> "They are different ways of making a former which we had discussed. That is the first former that was made (indicating), this model at the top of the sheet attested June 15, 1904. The attestation of the other sheet is June 21, 1904. That is the last, contains the last plans which we discussed for making an adjustable former. These two sheets were the ones I showed to Mr. Brown [of St. Joseph Iron Works], and also to Mr. Healy."

The construction of the models and the disclosure of the drawings thus referred to and which represented Inwood and Lavenberg's workholder, method and machine solution arrived at prior to June 20, 1904, appeared clearly in the evidence.

Inwood's Original Models.

As already quoted from Inwood, the so-called "St. Joe" or "Brown" machine which was ordered with the "former" or workholder, on June 20, 1904, was "made identically

with our models and the drawings which we took with us" (R., Vol. II, p. 774):

And Brown himself makes clear what was shown in the models. First Brown testified (R., Vol. II, p. 742) that the former built in his shop was shown in Fig. 6 of the Brown patent application drawings, reproduced in the Transcript (Exhibit 118, Vol. II, opposite p. 742). This drawing shows two longitudinal channel irons with the cleat spacing blocks j^3 located therein, and the cleat clamping springs j^2, essentially the same as the corresponding parts shown in the Inwood and Lavenberg workholder patent in suit (R., Vol. II, p. 1193).

Then Brown testified that on Inwood's visit when he described the machine and workholder, the machine as contemplated at that time "consisted of the machine for stapling, and the workholder for holding the work through the staplers, * * * to hold the material in place while being so put through the machine" (*ibid*, 746).

Further Brown testified (*ibid*) that the cross-bars j^1, j^1, in Fig. 6 of the drawing (Exhibit 118, R., Vol. II, opposite p. 742) were Brown's own idea, together with the feeding rack j^7; but everything else of that drawing was indicated in Inwood and Lavenberg's model that they brought to Brown (*ibid*, pp. 746, 747). And then Brown described how the individual cleats were to be assembled in this workholder, the veneer laid over the cleats and then the wire and staples applied (*ibid*, p. 747). And he summarized by saying that the whole of the showing in that Fig. 6 of Exhibit 118, *is what Inwood gave him a model for* and what was designated as the workholder (*ibid*). And that same machine, combining the stapling mechanism and the workholder, as disclosed to him by Inwood and Lavenberg, was the machine built by Brown's company, the St. Joe Iron Works, for Inwood or Lavenberg or the South Bend Healy Box Company. That is the same "St. Joe" or "Brown" machine testified to by Inwood as having been delivered to the last named company about September first, 1904.

Thus conjoining Inwood's and Brown's testimony as quoted above, Inwood's models, presented to Brown on June 20, 1904, showed all the parts illustrated in Fig. 6 of the drawing Exhibit 118 (R., Vol. II, opposite p. 742) except the connecting bars j^1 and feeding racks j^7, which were simply additions made by Brown himself, the former to connect the two cleat channel bars and the latter to provide for feeding the workholder through the machine. But the mechanical cleat positioning devices, for holding the preformed cleats in foldable relation, were thus all finally disclosed in a perfected form in the models dating from prior to June 20, 1904; and the completed commercial form of machine, as testified by both Inwood and Brown, was made in accordance with those models. In other words, the origin of the completed commercial machine was of a date not later than June 20, 1904.

The witness, Guilford C. Babcock, saw this same St. Joe or Brown machine at the plant of the South Bend Healy Box Company in 1906. Mr. Babcock testified (R., Vol. I, p. 217):

> "Q. 135. How did that machine which was in use in 1906 by your licensee at the plant of the South Bend Healy Box Company, compare with the machine which is shown in the Inwood & Lavenberg blank machine patent here in suit? (A copy of the Inwood & Lavenberg patent No. 1,128,145 is handed to the witness.) Please confine your reply to the general features of this machine; I shall ask you more particularly about the work-controlling features in a later question.
>
> "A. These illustrations (referring to the patent) show the machine practically as I saw it in South Bend. Any differences would be of a minor character.
>
> "Q. 136. Is there any difference which you can point out?
>
> "A. There were guides that carried the workholder through the machine; there were fins on the spacer blocks that separated the thin boards of the side sections; and there was some arrangement, the details of

which I do not recall, that provided for enough wire between the blanks to enable the twist to be made at the end.

"Q. 137. Please explain briefly the character and location of the guides you refer to.

"A. I can't give you the details. The front end of the workholder fitted into something that held it in place.

"Q. 138. Please refer to the Inwood & Lavenberg patent in suit, No. 1,128,144, on the work-controlling means. How does the carriage and former shown compare with that one in use in 1906, as you state?

"A. This is what I saw with the exception that this does not show, as far as I am able to see, any arrangement for providing fins on the spacer blocks 6 to separate the thin boards of the sections. I do not remember whether or not the springs 15 were on the workholders that I saw.

"As to the character of use to which these machines were put in 1906, our licensee was engaged in the business of making and selling 4-One boxes and all the boxes that they made were made on those machines. *Those same machines continued in that same use for several years following 1906.*"

Thus this St. Joe or Brown machine, designed prior to June 20, 1904, and built (as Inwood and Brown testified) in accordance with that design (except for trifling mechanical details) had a workholder like that of the workholder patent No. 1,128,144, except that the patent omits the sheet positioning fins that were added, at some time, to convenience the positioning of the sectional side sheets. But these additions of sheet positioning devices involved no change in the all-important cleat-positioning devices which strictly followed the original design. Although Mr. Babcock does not remember whether the springs 15 of the patent were on the actual workholder, it is clear from Brown's testimony that they were (see Brown's Fig. 6, R., Vol. II, p. 742).

Likewise the machine shown in the blank machine pat-

ent here in suit, No. 1,128,145, was the St. Joe or Brown machine designed prior to June 20, 1904, except for the sheet positioning fins just referred to and "the guides that carried the workholder through the machine" and some arrangement for providing lengths of wire between blanks.

And those guides that were in fact on the machine were only inadvertently omitted from the application drawings as shown by the supplemental oath of Inwood & Lavenberg, dated April 10, 1907, filed in the blank machine application (see file-wrapper, Defendant's Exhibit No. 14, a physical exhibit), in which oath it was said that the guides or angle irons were

> "upon and formed part of the original machine built by the direction of the affiants for the purpose of embodying their invention, and that said machine was completed and put into actual use prior to October 27th [1904], the date upon which said application was filed; that said additional features [the guides] were improperly omitted from the drawing and description filed with said application for Letters Patent," etc.

Two photographs showing the actual machine, with the guides, accompanied the supplemental oath just quoted. Although the omission to show the guides in the application drawings had been inadvertent, nevertheless the Patent Office properly refused to permit an amendment showing and describing these guides, after the application was on file, on the ground that the proposed amendment involved new matter (see Patent Office letter of August 5, 1907, Defendant's Exhibit No. 14).

Conjoining the testimony of Inwood, Brown and Babcock, as cited above, the machine patent in suit was founded directly upon the machine represented by Inwood's models and description which he presented to Brown on *June 20, 1904.* In spite of the inadvertent omission of the workholder guides from the blank machine application, and the omission of the irrelevant sheet positioning fins from the

drawings of the workholder, and the other minutiæ mentioned by the witnesses, every particular of the all-important cleat-positioning mechanism as explicitly disclosed in the patents in suit, was designed by Inwood and disclosed to Brown on June 20, 1904, and was then embodied in the commercial form of machine which went into use in September, 1904, and continued in use (as Babcock testified) for some years thereafter.

In other words, Inwood and Lavenberg had not only completed and tested their mechanical concept of the cleat treating idea, but had actually designed the cleat-treating devices *in the commercial form disclosed in their patent drawings*, all prior to June 20, 1904, and some weeks prior to the invention of the lap-corner box on about July 8, 1904.

So far as concerns every essential of the cleat treating devices, Inwood and Lavenberg could have filed their machine and method applications not later than June 20, 1904, and they could have made therein the same generic machine claims which are now in suit. Of course, they were well within their rights in postponing their applications until October of the same year.

Inwood's Orginal Drawings.

The drawings referred to can still be shown. They are reproduced in the Record (R., Vol. II, opposite p. 776).

As indicated in Inwood's testimony just quoted, the Exhibit 8 drawings (R., Vol. II, opposite printed p. 776, and marked p. 713b), in the figures at the top of the sheet attested June 15, 1904, show the first former that was made. This consists of a long strip upon which are screwed spacing blocks. A preformed step-mitered cleat would be positioned between the blocks. This drawing obviously corresponds to the models K-1 and K-2 described by Mr. Inwood and Mr. Brown in the testimony already quoted and as having been presented with these drawings to the St. Joseph Iron Works in explanation of the changes to be made in the earlier ordered blank machine.

The formers illustrated in these Inwood drawings are described by Mr. Lavenberg (R., Vol. II, p. 809):

> "After Mr. Inwood and myself had begun to invent a former or workholder, Mr. Inwood was making drawing at his home, while I, at times, when I could best leave my other work, was experimenting with a former by which I could use a step-mitered cleat after being assembled in this workholder, and the veneer placed upon the cleat, we could convey the same through the machine in such a manner as to make a complete box-blank. We made quite a number of different designs of divided blocks, also different forms with channel and angle bars for the purpose of holding these cleats."

R., Vol. II, p. 813:

> "I think I made the former of wood, the first former I made, for the purpose of spacing off and assembling our cleats. * * * I think that (former) was made in June. * * * The former was one straight strip of wood [the long strip in the Inwood drawing attested June 15, 1904, the old Exhibit No. 8], the length of which a box blank should be made, cutting our blocks which were step-mitered [see the blocks in the second figure on the Inwood drawing, old Exhibit 8] the same as cleats to be used on box-blanks, cutting them [the blocks] sufficient lengths for the spacing of cleats on box-blanks. These blocks were fastened on to the strips with nails. The formers were laid on a bench such as a carpenter or cabinet maker would use, the veneer being cut to width and nailed fast to the cleats with small brads in order to hold them in their places, while the wire for binding was stapled on by hand. After removing this blank from these formers and folding it, it made a perfect wirebound box."

This describes the use of the early workholders or formers in a method performed largely by hand, in addition to the use of the workholders on the Rosback machine

as described by Inwood. And all of this early use of the new former or workholder for the preformed individual cleats, was devoted to the making of the Rosback bent veneer blank. In other words, the machine invention in the field of *cleat* treatment was being used with *one species of side material* treatment adopted from the prior art. The lap-corner box of the reissued patent was *not even invented at this time.*

Mr. Inwood testified (R., Vol. II, p. 853):

> "The purpose of the experiments was at first to use the former K-1 and K-2 *so that the step-mitre machine invented by Rosback could be dispensed with.* * * *"

—that is to say, the purpose was to solve the *cleat* treatment problem by eliminating the cleat-severing operation on the rigid blank according to the Rosback method, in favor of the cleat preforming and assembling operations of the Inwood and Lavenberg method, while adhering to the specific prior art *side material* for the bent veneer box.

All this early use of the formers or workholders for making the Rosback bent veneer blank is perfectly illustrated (and the oral testimony on the subject is conclusively confirmed) by the showing in the third figure of the Inwood drawing attested June 15, 1904 (the old Exhibit 8), in which the parts of the box blank itself are shown diagrammed in relation to a fragment of the workholder including one step-mitered spacing block. In this third figure the long strip of the workholder is shown with an illustrative step-mitered spacing block and four cleats are shown, together with the *integral* veneer side sheet which is simply *scored or grooved* at the intended corner lines as clearly shown.

This indicates again the complete solution of the *cleat* treating problem without any change in the character of side material, which Rosback and his predecessors and associates had used for many years. And this emphasizes

the difference between the two fields of invention in *cleat* treating and *side material* treating.

The remaining views on this earliest Inwood drawing (the old Exhibit 8) represent modified details of the formers or workholders in side elevations and plan views, not necessary to be discussed here.

The inscription at the lower left-hand corner of this drawing (the old Exhibit 8) is highly informative and we quote it here:

> "Plan of former devised about May 6th, 1904.
> "Described to W. P. Healy—May 12th, 1904.
> "Described to Brown of St. Joe, Mich., about May 25, 1904.
> "Machine ordered of St. Joe Iron Works May 27, 1904.
> "Test made by using wooden carrier as per drawing #1, June 14th.
> "This drawing made June 14th, 1904.
> "Attest June 15th, 1904.
> "JOSEPH A. WERWINSKI,
> "(Seal) *Notary Public.*
> "My Com. expires Jan. 21/07."

A comparison of Inwood's drawing attested June 21, 1904 (the old Defendant's Exhibit No. 9, R. Vol. II, opp. p. 776, marked p. 714a), with the drawings of the workholder of the patents in suit shows the close correspondence between the two; and further substantiates the point already made that Inwood had invented and designed prior to June 20, 1904, the same essential cleat positioning devices which are disclosed in the drawings of the patents in suit.

The evidence thus far described establishes, beyond question, Inwood's and Lavenberg's conception and disclosure and actual demonstrations, prior to June 15, 1904, of the new former or workholder for positioning the preformed cleats in co-operative foldable relationship, and the combination of the new workholder with the staple-driving

and wire-feeding mechanism (of the Rosback machine) by which the binding wire was attached to perpetuate the relationships of the cleats; and the complete disclosure, by models and drawings, to Brown of the St. Joe Iron Works, on June 20, 1904, of the final design of cleat positioning devices which were embodied in the first commercial machine in accordance with the models and drawings.

This is the distinctive subject-matter of the machine patent in suit, claimed therein generically (as presently discussed) in the field of *cleat* treatment, without regard to its use with any particular species of *side material* for making any specific type of box of bent veneer or with lap corners or with open corners or otherwise.

And it is further established that the new workholder and blank machine combination, which revolutionized *cleat* treatment, were first conjoined to the Rosback species of *side material* in making the bent veneer box. The product of the new method and workholder, as it emerged either (1) from the hand-wiring operation described by Lavenberg, or (2) from the blank machine combination involving the new workholder used on the old Rosback blank machine as described by Inwood, or (3) from the first intended use of the commercial machine ordered June 20, 1904,—was the *typical bent veneer blank* just like the one previously produced by the complex succession of operations first on the Rosback blank machine (which produced the rigid blank) and then on the Rosback step-mitering machine (which severed and step-mitered the cleats and scored the veneer).

All this had been accomplished, and a final form of commercial machine, with the former or workholder, had been ordered by June 20, 1904. Mr. Inwood testified (R., Vol. II, p. 774):

> "On the 20th day of June we took the model of the former which we had and the drawings which I had made to St. Joe, and ordered the machine there changed so as to use a former, and the machine was changed exactly according to our plans to use a

former, and the former was made identically with our models, and the drawings which we took with us."

Mr. Inwood testified further (R., Vol. II, p. 773):

"On the original order the plans and specifications for the machine ordered from the St. Joseph Iron Works did not provide for formers. The order was afterwards [June 20, 1904] modified to use the former. By former I mean a workholder, which consisted of two long strips of channel iron of the right size to hold a cleat 15/16 by 3/4. The purpose of this former was to hold the cleats on [and] the veneer in the proper position to be passed under the stapling machine to be stapled."

* * * * *

R., Vol. II, p. 777:

"The box-blank machine which was built by the St. Joe Iron Works was received in South Bend in September, the early part of September, 1904. It was set up in the plant of the South Bend Healy Box Company and commenced manufacturing boxes for Mr. Russ, I believe. *It is still in the plant of the South Bend Healy Box Company making boxes every day* [when Mr. Inwood was testifying more than a year later, between November 2 and 15, 1905]."

There is no question, therefore, but that the machine invention had been completed—even so far as the design in commercial form—by June 20, 1904. And in all the essential cleat positioning mechanism, this same design is shown explicitly in the patents in suit.

At this juncture Inwood and Lavenberg had contributed a revolutionary advance in the art, of generic novelty, referred to by Judge Raymond as follows (R., Vol. II, p. 1161):

"It seems to the Court that plaintiffs' expert has correctly expressed the improvement of the Inwood

and Lavenberg patents over the preceding Rosback inventions in the comparison hereinbefore quoted, namely, that Rosback taught the production of foldable relationships by *cutting* while Inwood and Lavenberg taught the production of foldable relationships by *assembling and wiring together separate box elements.*"

[And all this had occurred substantially prior to the invention of the lap-corner box of the reissue patent No. 12,725, as later explained.]

Recognized Advantages of New Cleat Treating Practice.

The new blank machine invention, which for the first time made practicable the "automatic or partly automatic production" of the Rosback bent veneer box, contributed three fundamentally important advances in the art of cleat treatment without the slightest reference to any modification in the box structure *per se*, or in the side material, namely:

(1) The complex cleat step-mitering mechanism of Rosback and the severing of the cleats and shaping the ends thereof, on the rigid blank, were eliminated and thereby one of the most prolific sources of difficulty in the ten years of experimentation was avoided;

(2) The use of inexpensive short pieces of cleat wood (possible to be made of fragments of lumber that might otherwise be waste) was permitted for the first time, with a saving of 75% in cost of cleat lumber (*vide post*), in lieu of the requirement in the Rosback practice for cleat strips long enough to supply four cleats each, and of high-grade lumber uniform and straight enough to be positioned in and to slide through the channel-shaped cleat guides in the Rosback blank machine; and

(3) Preforming the cleats before they were assembled or secured to anything else, and while they were simply short pieces of wood easy to be dealt with in a wood-work-

ing machine, permitted the making of any sort of inter-engaging cleat ends which might be desired appropriately to commercial production and use; for instance, the making of tongue-and-groove cleats (now the most popular form of cleat) was permitted by the cleat preforming method, while the tongue-and-groove cleat ends could not have been made by the Rosback method after the long cleat strips had been secured and wired in the rigid box-blank.

Evidently, all the valuable improvements just described pertained to the field of *cleat* treatment and were wholly foreign to *side material*.

Cheapness of materials and manufacture are among the principal merits of the wirebound box, either in the Rosback bent veneer type or in the lap-corner type or any other type; *i. e.*, regardless of the species of *side material* employed. Each species of wirebound box comprises the thin, fragile and relatively cheap side material and slender cleats (which alone would be inadequate in an ordinary nailed box), so co-ordinated with wire and staples as to supply adequate strength. And the merit of cheapness which recommended the Rosback box was greatly enhanced when the manufacturing operations were simplified by substituting for the Rosback practice the preforming of cleats by a simple wood-working operation and the positioning of cleats in a workholder; and by allowing the use of the short pieces of cleat wood; and by permitting stiffness and strength to be added to the box by the use of the tongue and groove cleats. All of these were outside the field of *side material* treatment.

That these enhanced merits were recognized contemporaneously with the inventions by Inwood and Lavenberg, is clear from the evidence.

On July 8, 1904, Inwood wrote a letter to Healy, which is in evidence (R., Vol. II, p. 726). In that letter Inwood said:

> "The new step-mitre [for preforming individual cleats] is working nicely and we are now making the

small Russ box on the former [workholder]. This appears to be the best way of making the box and according [to] the prices received at this date will *reduce the cost of cleat lumber from $20.00 per M to about $5.00*, and I think will give us a better made box. The work of the next few days will determine this beyond doubt."

This "small Russ box" mentioned by Mr. Inwood was the Rosback bent veneer box. Mr. Russ himself described the purchase of the *bent veneer boxes* from Inwood's company (R., Vol. II, p. 875) and then says (*id.*, p. 876):

> "*Subsequently* to the purchase of these boxes, we purchased *another type* from the South Bend Healy Box Corporation. *That was later on in the fall of the year 1904* and the years following. Our heaviest shipments begin about September first and run from September first to November fifteenth or the first of December. We made this *second* purchase of the *other* type of box at the beginning of our busy season, *about the first of September, in 1904.* The box that we purchased from the South Bend Healy Corporation in September, 1904, was a rectangular box made of veneer. The ends were step-mitred with a narrow cleat and when the box was folded the tops and bottoms *fitted over the sides* and made a complete box [the lap-corner box]."

Since Russ began to receive these lap-corner boxes only in September, 1904, it follows that "the small Russ box" which Inwood was making on the former on July 8, 1904, was the earlier bent veneer box. Hence, while still making the bent veneer box, Inwood recognized that the new inventions in *cleat* treatment would reduce the cost of cleat lumber seventy-five per cent., from twenty dollars to five dollars per thousand feet—a very striking economy. And like economy would necessarily result from any application of the new *cleat* treating method for use with any specific *side material* that might be selected.

Thus far it has appeared that the Inwood and Lavenberg method and machine inventions were generically novel in the field of cleat treatment; and that revolutionary advantages thereof were recognized at the time when the new cleat treatment was still being employed to make the *old species of box*. We emphasize this point in order to stress the fact that the novelty and the recognized advantages in cleat treatment were wholly unrelated to the *subsequent* development of the lap-corner box as presently described.

At this juncture in the history of their inventions, Inwood and Lavenberg had completed exactly the machine invention defined in the claim here in suit. This had been accomplished prior to June 20, 1904, and prior to the invention of the lap-corner box.

Thus, Inwood and Lavenberg acquired their inchoate rights to patent on the machine before the lap-corner box had been invented. Thereupon they became entitled to file a patent application, at any time within two years from their first public use, upon the machine, as their first step toward perfecting their inchoate right.

It is impossible that the *subsequent* invention of the lap-corner box could have abridged or affected those inchoate rights in the slightest degree, or could have called for any change in the procedure by which those rights could be matured into patents under the statute.

It could have made no difference if the lap-corner box had never been invented; or, having been invented, had never been disclosed in any patent application.

Invention of the Lap-Corner Box.

As testified by the witnesses and indicated by the Inwood drawing attested by the notary on June 15, 1904, the cleat preforming workholder had been described to Healy and to Brown as early as May, 1904; the wooden former had been actually tested as early as June 14, 1904; the drawing showing several specific arrangements of former

had been completed by June 14, 1904, and was attested by the notary on June 15, 1904; and all this had been intended for use in making *the scored veneer box* as explicitly shown on Inwood's drawing.

By June 20, 1904, when the final design of the St. Joe machine with the former was ordered, Inwood and Lavenberg had solved *all* the problems involved in treating cleats; and that Inwood and Lavenberg solution, by machine, has been in continuous use to this day.

Later, about July 8, 1904, they invented the lap-corner box.

Obviously, however, the invention of the lap-corner box solved *side material problems exclusively,* and added nothing to nor subtracted anything from the generic *cleat* treatment which Inwood and Lavenberg had previously invented. The advance contributed by the lap-corner box invention was predicated solely upon the difference between an integral *scored side sheet,* and *sectional side sheets* arranged to overlap. The preforming of cleats and positioning them in co-operative foldable relationship remained unchanged. The cleat-positioning elements of the work-holder remained wholly unchanged in structure and function. The blank machine organization remained precisely the same.

Hence, clearly, the status of the lap-corner box invention must be considered that of a detail improvement in *side material* treatment.

The box reissue patent No. 12,725, is extremely specific and limited in character, and is confined to the field of *side material.* To be sure, the lap-corner box invention, although highly specific, was meritorious and resulted in the first known flexible and elastic box as found by His Honor, Judge SANBORN in the early litigation on the box reissue patent No. 12,725 (238 Fed. Rep., at 931). But the value of the invention does not alter the fact that it was specific and was in a field distinct from that of cleat treatment.

The lap-corner box invention, in its broadest aspect, involved features of method invention but the latter were

confined to improvements in side material treatment, arranging the side material in sectional sheets for the respective box sides and relating their edges to each other so that they would overlap, instead of arranging the side material in a single sheet as in the Rosback practice. The advance in the method of dealing with *side material*, which accompanied the lap-corner box invention, was susceptible of being super-added to *either one* of the two then known methods of treating cleats,—either to the Rosback cleat cutting method or the Inwood and Lavenberg preforming and positioning method.

When the lap-corner *side material* treating steps had been coupled in sequence with the Inwood and Lavenberg *cleat* treating steps, and the aggregate of procedural steps had thus been made to begin with the preforming and positioning of the cleats and to end with the positioning of the side sheets to produce the lap-corner result, then that aggregate of steps constituted a new *species* of method, so to speak, leading to the result of the lap-corner box. Nevertheless, the generic *cleat* preforming and positioning method (usable for producing a variety of species of box), remained a separate, dominating invention which is defined in the claims here in suit.

In view of the distinct statuses of the *cleat*-treating method and machines, on the one hand, and the specific lap-corner *side-material* invention, on the other hand; and in view of the wide scope of utility of the cleat treating inventions for making various species of box, and the restricted scope of utility of the specific lap-corner invention for making only a single species of box,—it would be largely immaterial whether the lap-corner invention had preceded or followed the cleat treating invention. [This is further immaterial in view of the fact that all the inventions were disclosed in *co-pending applications*.]

The lap-corner invention might have emerged from the Rosback experiments before the cleat preforming and

positioning method had been even conceived, or, in fact, if it had never been thought of. If only Rosback had conceived the lap-corner idea, he could have produced the lap-corner box by only a slight modification of the original Rosback method and machinery (*post*, p. 69 *et seq.*) Hence, the exact sequence in which Inwood and Lavenberg made the respective inventions of the cleat preforming and positioning idea, and of the lap-corner box, could not be controlling or especially significant in any event.

But when it appears, as presently shown, that the lap-corner box invention was in the nature of an afterthought occurring substantially later than the machine invention, and was simply an after-added improvement in *product*, those circumstances enforce the conclusion already stated, that the lap-corner box invention can have no effect upon the machine patent.

We next show that the lap-corner box invention *was subsequent* to the machine invention, in point of time; and that at least at the outset the lap-corner box was considered simply one of the two recognized species of box (the other being the bent veneer box) *either of which* could be *selected* to be made by the Inwood and Lavenberg cleat treating machinery.

The first lap-corner box was made about July 8, 1904. And the inducement to that invention appears in the following testimony by Inwood (R., Vol. II, p. 848):

> "When I was working for Mr. Flora, I did state to different parties that I did consider the boxes [the Rosback scored veneer type] commercial and salable, and I did so consider them at that time because I was told by Mr. Flora and Mr. Healy both that it was commercial, and it looked commercial.
>
> "However, in attempting to dispose of the boxes in South Bend I found that there were objections to it which I had not known of while working for Mr. Flora; that the veneer would open at the corners and the corners would be rounded, and for those reasons many different parties refused to use the box commercially."

At another point, Inwood testified (R., Vol. II, p. 802):

> "I am not quite sure who first suggested the lapping of the veneer at the corners of the box, but I think it was one of the people that we tried to sell the box to. Some firm. I think it was, well, I don't know, probably Mr. Russ. I know he suggested it, but whether he suggested it first I don't remember. It was suggested a great many times."

Referring to his early tests using the workholders on the Rosback machine, Inwood testified (R., Vol. II, p. 853):

> "The purpose of the experiments was at first to use the former K-1 and K-2 so that the step mitre machine invented by Rosback could be dispensed with, but *during the series of experiments* and when we learned that the round cornered box was not acceptable to the trade, and we had ascertained that a lapped cornered box would be more commercial and acceptable, we used the former K-1 and K-2 in an endeavor to use a box blank which would lap at the corners and form a lapped cornered box."

Hence, it was "during the series of experiments" with the former K-1 and K-2 that they ascertained the desirability of the lap-cornered box and endeavored to make it. The formers K-1 and K-2 had already been invented and were in use, and, obviously, *the means of preforming and positioning the cleats had already been invented.* Inwood testified (*ante*, p. 38) to three separate experiments made in succession with the former K-1 and K-2, the first with the single veneer sheet previously scored by hand; second, with the unscored single veneer sheet which they tried to score after the blank was wired and cleated, using the Rosback step mitre machine for the purpose; and the third, with the sectional side sheets that produced the lap-corner box.

The first two experiments utilized the generic method

and machine inventions for making the *bent veneer box* and at that time the new side material treatment for the lap-corner box had not been devised. It was only the third experiment which involved both the generic *cleat* treatment and the super-added specific invention in the lap-corner *side sheet* treatment (R., Vol. II, p. 781 *et seq.*)

Healy described the third test just referred to, thus (R., Vol. II, p. 850):

> "'K-1 and K-2' constitute a former or workholder similar to a former or workholder used on the Rosback machine before they got the Brown machine [the "St. Joe." machine delivered September 1, 1904]. It was used in July and August [1904]. K-1 was placed into one of the guides for the cleats in the Rosback box-blank machine and K-2 was placed in the other guide, but before being placed in the cleats they placed in K-1 and K-2 between the blocks on K-1 and K-2 the same as I am now describing, and then boards were placed on top of the cleats sufficient in length to make the desired box-blank. These boards were tacked on with metal Brads to the cleats so as to keep them from moving and then the whole thing was placed in the Rosback machine, and fed through the machine, and the wire was stapled thereon to the box-blank while going through the machine. In that way they made a box-blank that would *lap* on the Rosback machine.
>
> . . . . .
>
> "Q. Well, there was no practical way, was there, for making a lapped-corner box on a Rosback machine?
>
> "A. With the aid of these formers here, Exhibit K1 and K2 you could make lapped-corner boxes on the Rosback machine, and they were made, plenty of them. They [referring to Inwood and Lavenberg] did not make any other kind of a box except lapped-corner boxes *after July 7th*, and they used the Rosback machine from July 7th until September 1, 1904. They were all made on the Rosback machine during those dates." (R., Vol. II, p. 844.)

We have already mentioned Inwood's letter to Healy dated July 8, 1904, referring to the successful use of the former in making the small Russ box, which, as shown by Mr. Russ himself, was of the bent veneer type. Evidently it was one of these same so-called small Russ boxes which was first made in the lap-corner form as shown in another letter of July 11, 1904, that Inwood wrote to Healy (R., Vol. II, p. 727), as follows:

> "In reply to yours of the 10th inst., we are sending you by express a small Russ box made on the new step-mitre and former. In *this box* the tops and bottoms are *lapped* instead of being creased [scored] and folded. You can look the box over and kindly write us as to your opinion on making the boxes this way. *We can make them either way* but the sample sent you saves one step in the manufacture, viz.: the cutting of the crease and as the corners are always square, it adds to the appearance of the box."

This was a notification to Healy, as promptly as possible of the devising of the new lap-corner box. The sample was being sent by express. Only three days earlier Inwood's letter of July 8, 1904, to Healy, had referred to the bent veneer Russ box and to the great saving in cost of cleat lumber due to the preforming method. The lap-corner box was evidently invented some time during the interval between July 8th and July 11th.

In Inwood's letter of July 11, 1904, just quoted, there is one remark that is profoundly significant. He had been using the new cleat preforming workholder for making the bent veneer box, and in his letter to Healy he was tendering for the first time the lap-corner box "made on the new step-mitre and former."

The significant remark is worth repeating:

> "You can look the box over and kindly write us as to your opinion on making the boxes this way [with the lap-corner]. *We can make them either way* but

> the sample sent you [with the lap-corners] saves one step in the manufacture, viz.: the cutting of the crease and as the corners are always square, it adds to the appearance of the box."

This shows that Inwood perceived substantial merit in the lap-corner box, both in simplified manufacture and in the appearance of the product. Nevertheless, he says he can make the box "either way" on the new "new step-mitre and former", either with the bent veneer sides or the sectional sides for the lap-corners. This "*new* step-mitre" was the simple machine for *preforming* the cleats, and must not be confused with the *old* complex Rosback step-mitre machine for use with the rigid preliminary blank. No expression could more clearly manifest Inwood's knowledge of the respective statuses of the "new step-mitre and former" inventions used in the cleat preforming practice, and the lap-corner box invention. The first named was generic while the lap-corner invention was simply one of two alternative species either of which might be selected to be made upon the "new step-mitre and former."

The dates of first development of the lap-corner box as indicated by Inwood's and Healy's testimony and the former's letter, correspond fairly closely with certain findings by the Master in the Healy title suit, for instance, in the following (R., Vol. I, p. 453):

> "Finding 28. Up to the first week in July, 1904, the creased box [the Rosback bent veneer box] with partly lapped corners (except the upper front corner which fully lapped) was manufactured by the South Bend Healy Box Company. About July 2nd or 3rd, 1904, the defendant Lavenberg completed a cheap step-mitre machine, or saw table, at a cost of about $100 for the South Bend Healy Box Company, and he also made a former for the Rosback box blank machines; and said two new machines were both put into use by

the South Bend Healy Box Company and the Rosback step-miter machine was discarded. The *lapped box*, the invention of which is one of the matters in dispute in this case, was *thereafter* made by the South Bend Healy Box Company, and the manufacture of a creased box ceased. About 800 sample boxes, *both creased and lapped*, were made before August 31, 1904, by the South Bend Healy Box Company, and sold to a consumer in South Bend, Indiana, who used them in his business."

In Finding 11 (R., Vol. I, p. 452), the Master says:

"In the *first week* in July, 1904, and after the invention of the Brown machine [the St. Joe machine with the former], hereinafter referred to, the box known in this case as the lap box was *first* made by the South Bend Healy Box Company in its factory. Such box consists of a plurality of straight edged sheets of veneer bound to cleats, the cleats and sheets being so placed in relation to each other that when folded one of the sheets completely overlapped the other sheet at the longitudinal corner. Such first box was made upon the Rosback machine, in connection with a machine called the 'Former', or 'Wood Work Folder,' hereinafter referred to."

The above-quoted findings were not excepted to by any party in the Healy title suit.

We do not see how the Master reconciled this finding as to the "first week in July," with the Inwood letter of July 8, 1904, referring to the making of the small Russ box which, according to Mr. Russ' testimony was a lapped veneer box. In any case, however, it is clear that the lap-corner box was never made until after July 1, 1904, at the earliest, and probably not until after July 8th.

Inwood's direct testimony as to the date when the lap-corner box was first made is here quoted briefly (R., Vol. II, p. 786):

"Q. When did you commence to make that lapped box?

"A. In July, probably about the tenth.

"Q. You commenced about the 7th according to your own letters, didn't you?

"A. It may be that we made a few boxes in experimenting on the seventh."

On cross-examination, Inwood testified (R., Vol. II, p. 803):

"Q. Do you remember, Mr. Inwood, when it was you began making these boxes with lapped corners?

"A. I think in July, between the 1st and 15th.

"Q. Of 1904?

"A. Yes, sir.

"Q. Did you make many of them?

"A. No, sir, they were sample boxes, experimental boxes.

"Q. Simply made to exhibit and show?

"A. Yes, sir, and in testing and experimenting to get a perfect box. I do not think we made any to sell until the Brown machine [the St. Joe machine] was received [September 1, 1904]."

There is further evidence confirming the foregoing, but we believe it would be superfluous to refer to it.

Summary.

In the foregoing analysis of the evidence we have established certain historical facts which we summarize thus:

1. After witnessing and participating in Reisback's struggles to operate the original Reisback machine, Inwood and Lavenberg designed a blank machine of their own intended to produce *the typical Reisback grid blank* that would require the subsequent operation of the Reisback step-mitering machine for severing and step-mitering the cleats and scoring the veneer sheet.

2. Even before they designed their first rigid blank machine, Inwood and Lavenberg had suggested (in May, 1904) the preforming of cleats and the use of a workholder for assembling them, and had several times discussed these ideas with Healy (May 12, 1904; see Inwood's drawing, the old Defendant's Exhibit 8), and with Brown (May 25, 1904, and thereafter); but the ideas had always been rejected as "impracticable and impossible of operation."

3. After the original St. John machine had been ordered (the first design for making the Rosback *rigid* blank), and in spite of their predisposition against the practicability of the idea, Inwood and Lavenberg continued discussing the preforming and positioning of cleats.

4. By June 14, 1904, Inwood had made fully explanatory drawings of workholders for relatively positioning the preformed cleats and Rosback previously scored side material (see Inwood's drawing), and on June 15, 1904, Inwood had that drawing attested by a notary.

5. Also, they had the model workholders K 1 and K 2, corresponding to the Inwood drawing, and had tested them on the Rosback machine in making the scored veneer blank.

6. By June 20, 1904, as Inwood says, the problem of the former or workholder had been finally solved; and Inwood took his models and drawings to Brown of the St. Joseph Iron Works and ordered the St. Joe machine changed so as to include the former and to be usable in practicing the cleat preforming and assembling method.

7. The very machine designed prior to June 20, 1904, and built in accordance with that design, is disclosed, in all the essentials of the cleat treating mechanism, in the patents in suit.

8. The lap-corner box was invented and first made some time later than July 1, 1904, and thereupon Inwood submitted to Healy the question whether they should con-

time making the scored veneer box or should elect to make the lap-corner box.

9. Inwood declared, what was the evident fact, that the new former or workholder could be used for making *other species* of box.

10. Election was made in favor of the lap-corner box, which has continued ever since to be a preferred form of box.

Thus the history of their development establishes the machine invention, on the one hand, and the lap-corner box invention, on the other, as wholly separate and distinct and susceptible of being independently patented.

The independent character of the respective cleat treating and side material treating inventions, is further demonstrated by the fact that the cleat treatment may be employed for making several species of box besides that involving said side material invention. And also the box embodying that side material invention may be made by at least two different methods and machines besides those involving the cleat treatment of the patents in suit. These points will be discussed next.

The Inwood and Lavenberg Cleat Treatment Can Be Used for Making Various Species of Boxes

We have already shown that the earliest use of Inwood and Lavenberg's cleat preforming and positioning mechanisms was in the making of the typical Roebuck lunch veneer box, a species in the prior art lacking, of course, the lap-corner feature.

Then the new cleat treatment was later employed in making a second species, the lap-corner box. In making the lap-corner box, the new species of sectional side material was simply substituted for the Roebuck species of continuous side material, without the slightest modification of the new cleat treatment.

As specifically disclosed in the machine patent in suit, the new cleat treatment and workholder can be used with either, interchangeably, the sectional sides or the continuous side sheet.

It developed later that this same cleat treatment could be used with still a third species of side material treatment for making the so-called "open-corner" box—*i. e.*, lacking the overlapping of side sheets—which was manufactured by the H. R. Gibbons Box Company in order to avoid the temporary injunction which had been issued against it, under the box reissue patent, in the suit referred to in Respondent's brief. The Gibbons Company, having been enjoined from making the lap-corner box, slightly changed its side material treatment, made the open-corner box, and thereby avoided the box reissue patent and escaped the injunction, but without changing its cleat treatment at all. (See Plaintiffs' Exhibit No. 26, Record on Motion for Preliminary Injunction in the Gibbons Case. See also McElroy, R., Vol. I, p. 233.)

Although it is not proved in this record, it will be obvious to the Court, that the same cleat treatment is usable with a fourth species of side material for making a box having all four sides formed of a single sheet of wood-pulp fiber-board or the like, which can be bent along corner lines, this fiber-board being simply substituted for the Rosback scored-veneer or for the sectional sheets used for the lap-corner or open-corner boxes. This has been an actual commercial practice by licensees of plaintiffs, although, as said, the fact is not proved in this record.

Obviously, also, the same cleat treatment can be used with a fifth species of side material treatment for making crates in which the side material consists merely of narrow strips or slats spaced apart, with or without a lap-corner relationship of slats at the box corners. Although no reason was foreseen for proving the fact in this record, millions of such crates have been manufactured by plaintiffs' licensees and they are to be seen upon freight and railway platforms throughout the land.

Thus the Inwood and Lavenberg cleat treating machine may be employed in making at least five different species of boxes, each having a different species of side material, namely:

1. The scored-veneer box.
2. The lap-corner box.
3. The open-corner box.
4. The fibre-board box.
5. The crate.

But *only one* of these five species—the lap-corner box—employs the invention or responds to the claims of the reissued patent No. 12,725.

In making all these five species of box by the Inwood and Lavenberg machine, the cleat treatment and cleat structure are the same. The foldable relationships of cleats upon the workholder are the same. When the binding wires have been attached, the same manner of folding the cleats and their same co-ordination in the finished box are thereby predetermined.

The only differences involved in making the respective species of box reside in whatever way may be selected for treating the side material. As described in Healy and Inwood and Lavenberg (*supra*), one of the earliest ways of dealing with side material for the scored veneer box, was to tack it preliminarily by small brads to the cleats so that the proper position of side material on the cleats would be determined.

This preliminary tacking was used in one of the three species of infringement in issue before Judge RAYMOND, in making defendant's lap-corner box, described thus in His Honor's opinion (R., Vol. II, p. 1160):

> "The second species of alleged infringement involves a machine and method whereby the blank machine receives four side sheets and four pairs of

cleats, two pairs of cleats having been pretacked to their respective side sheets, this being called the pre-cleated method."

It is self-evident that this pretacking expedient could be used for any species of side material without requiring the slightest modification in the generic *cleat* treatment.

In commercial practice, both by plaintiffs' licensees and by defendant, in making the lap-corner box, the sectional side sheets of veneer are held in position by so-called sheet-positioning fins which are simply thin metal lugs projecting upwardly from the cleat-positioning blocks to engage the edges of the side sheets. See, for instance, the lugs E in the drawing, Plaintiffs' Exhibit 10, of defendant's machine (R., Vol. I, p. 72). These fins are simply *additions* to the generic, cleat-positioning elements of the workholder to suit a specific character of side material treatment, and involve no modification whatever in the cleat treatment.

Precisely the same machine and cleat-positioning elements could be and are employed for making crates by using additional sheet-positioning fins mounted upon the feed chains to hold the narrow crate slats in proper relationships; or to make a scored veneer box or a box having a continuous sheet of fiber-board for all four sides, by simply omitting the sheet-positioning fins E in Plaintiffs' Exhibit 10 (without making any change in the cleat-positioning blocks themselves) while retaining only the sheet positioning fins at the rearmost edge of the blank to hold the long side sheet in position and propel it through the machine.

In short, the generic machine invented by Inwood and Lavenberg prior to June 20, 1904, contributed to the art the highly meritorious means of treating *cleats*, of generic utility with various species of *side material*. For making the respective species of boxes by the use of the Inwood and Lavenberg machines nothing need to be added beyond the specific details of *side material positioning elements* selected, if necessary, to suit the particular species of side material selected.

The Lap Corner Box of the Reissued Patent Can Be Made By At Least Two Methods and Machines Not Covered By the Patents in Suit.

Now that the box reissued patent has expired, defendant is entitled to make the lap-corner box. It can do so by at least two methods and machines derived from the prior art, instead of resorting to infringement of the patents in suit. This further emphasizes the distinct and independent character of the machine patent in suit, and of the expired box issue.

Defendant's own expert, Mr. McElroy, described two modifications of the prior art Rosback method and machinery, and said that these could be used in making exactly the lap-corner box of the reissued patent. Both these methods are characterized by the use of long cleat strips incorporated in the rigid preliminary wired blank and the subsequent severing and dimensioning of the individual cleats.

Mr. McElroy testified (R., Vol. II, p. 986):

> "Q. 530. In your direct testimony (typewritten page 8) you said:
>
> "'The patent in suit (you were referring here to the box reissue patent) distinguishes from the Rosback patent 623,258 only very slightly. If in Rosback the cut made by the saw were to extend clear through the veneer, and if the cleat were set back from the edge at both ends, the two patents would then show the same blank, but not the same method.'
>
> "Do you mean by this that if you started with a single integral sheet big enough for all four sides of the box, and two integral strips of cleat material, each long enough for all four cleats at the end of the blank; and having assembled these three elements and wired them as disclosed in the Rosback patent, you then passed them through a slotmortising and sawing machine of proper character you could con-

vert the previously rigid blank into exactly the blank of the Inwood and Lavenberg reissued patent?

"A. I believe I specified in considering a similar structure that the construction of the saws would have to be changed somewhat, and the saw that projects out farthest and the one which would cut through the veneer would have to be very thin, possibly thinner than would be practicable in order to produce a blank in which the edges of the side sheets were as close together as illustrated in the Inwood and Lavenberg reissued patent in suit. With this explanation, I will answer in the affirmative.

"XQ 201. Would the method explained in XQ 200 respond to the claims, or any of them, of the method patents which are in suit?

"A. I do not think any of the claims which I considered in my direct deposition are intended to be broad enough to include such a method."

Thus we find method Number 1, which, according to defendant's expert, would "convert the previously rigid [Rosback] blank into *exactly the blank of the Inwood & Lavenberg reissued patent*" but which the claims of the method patent in suit are not "intended to be broad enough" to cover. Evidently, such use of the modified old Rosback *two* machine practice would not infringe the machine patent here at bar.

Mr. McElroy said that still another method could be employed for making the blank of the Inwood and Lavenberg reissue patent. He testified (R., Vol. II, p. 900):

"XQ 10. Do you intend to be understood as stating that in your opinion the blank of the Inwood and Lavenberg reissued patent *could be made* in the manner you have just suggested, starting with rigid cleat lengths and *separate individual* side sheets, securing them together with the binding wires and then stepmitering the rigid cleat lengths but without severing the sheets?

"A. *I see no reason why that could not be done*

provided the four sections that went to make up the sides assembled as shown in the Rosback patent 625,958, were of the width of the sides of the box, and provided the saws shown in Figs. 31, 32, 33 and 34 of the Rosback patent 699,630 were changed, *why precisely the blank of the Inwood and Lavenberg reissued patent could not be produced.* I would not, however, consider this anything like so good a method of manufacture as step mitering the ends of the cleats before they are attached to the sides."

Of course, we concede that the modified Rosback practice is not so good as the Inwood and Lavenberg practice, but the former is entirely possible and it is the practice to which defendant can and should resort if it wishes to avail of the expiration of the box patent and not to infringe the machine patent in suit.

Defendant's expert, McElroy, continues (R., Vol. II, p. 980):

"XQ. 19. Do you mean to say that if the mechanic having the Inwood and Lavenberg reissued patent before him and knowing how the blank was to be when it was completed, would find it obvious that he could so modify *the Rosback practices* as to produce exactly the Inwood and Lavenberg blank in the way which you have described?

"A. The mechanics with whom I have come in contact, if they were fully conversant with all the details of the Rosback machines and boxes, and were given the Inwood and Lavenberg patent and told to produce it by the Rosback machines by the use of separate side pieces such as shown in the Rosback patent 625,958, *could easily do it*, and in so doing would not in my opinion exercise any patentable invention."

Thus defendant's expert describes method Number 2, modified from the Rosback practice, by which can be made the exact blank of the expired reissued patent.

These same subjects were dealt with by Plaintiffs' expert, Mr. Arthur S. Browne, as follows (R., Vol. I, p. 361):

"Several ways occur to me for making the article shown in the box patent, other than the method described and claimed in the method patent. * * *

"The third method which occurs to me is that one might start with two long strips of wood of the whole length of the blank. Four side sheets might then be placed over these two long strips and the wires and staples then applied. The two long strips of wood could then be passed beneath cutters which would form the cleat ends and separate the long strips into four cleats."

(R., Vol. II, p. 614):

"Mr. McElroy himself describes two modifications of prior art methods by which the Inwood and Lavenberg box might have been made, if they had chosen to adopt the current practices in the prior art instead of blazing a new trail. In his direct testimony, Mr. McElroy says:

"'If in Rosback the cut made by the saw were to extend clear through the veneer, and if the cleats were set back from the edge at both ends the two patents (Rosback 623,258, and the Inwood and Lavenberg reissued patent) would show the same blank, *but not the same method.*'

"What Mr. McElroy meant appears by reference to the Rosback patent 623,258, Figs. 36 and 37. I produce a sketch marked 'Plaintiffs' Exhibit, Browne's Sketch of Modified Rosback Method', which illustrates the modification of the Rosback apparatus evidently referred to by Mr. McElroy [see sketch reproduced in Transcript, Volume II, page 612; also reproduced on opposite page]. My sketch comprises two figures, the first of which should be compared with Fig. 36 and the second with Fig. 37 of the Rosback patent 623,258. Also the cleats and sheets as cut

Fig 1.

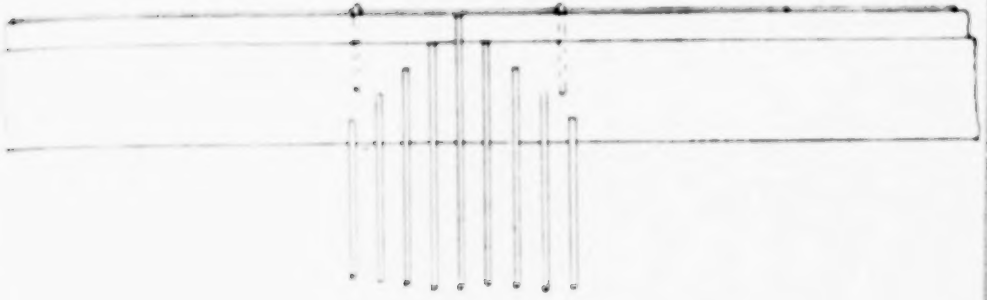
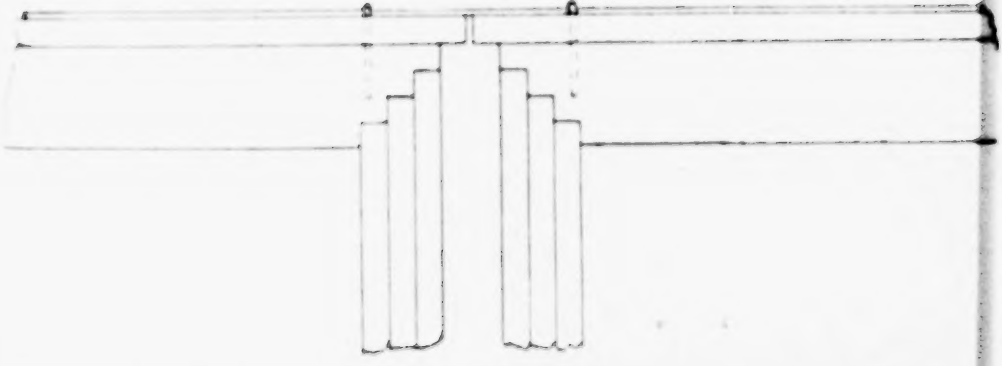


Fig 2.



PLAINTIFF'S EXHIBIT - BROWNE'S SKETCH
OF
MODIFIED ROSBACK METHOD

The Inwood and Lavenberg Patents and the Applications Thereof

April 1, 1914, the separate method application was filed in response to the Patent Office's requirement of division.

February 9, 1915, all three of the wirebinder blank machine and method patents were granted on the same day.

All the foregoing covered without any interfering rights either public or private and all three of the patents in suit had been issued about two years before defendant entered the field of making machinery for coated wire bound books. Further details of the history of the several applications will appear from time to time in the following discussion.

The Invalid and Inoperative Machine and Method Patents Cannot Be Privileged as a Defense from Trial of the Box Patent

In earlier chapters we have shown that Ireland and Lansberg made a genuine invention in method and machine for coating wire, and made a specific invention in wire material treatment in the improved box. We next show that Ireland and Lansberg in the applications for the patents in suit and in the patents themselves have always previously claimed the method and machinery for final treatment, which is the box patent that have confined their claims to the specific improvement in wire material treatment.

The Wirebinder Patent

In the original wirebinder application entitled "Combined Carriage and Former for Wirebinder Box Machines" filed October 14, 1913, the earliest filed of all the Ireland and Lansberg applications, the original specification commenced as follows (see the wrapper Defendant's Exhibit No. 17, a pictorial exhibit):

> This invention relates to a combined carriage and former for use in the manufacture of box blanks and more especially that class of box blanks wherein the sheets, sheet or boards and a stay or reinforcing wire

> are stapled together, and while the same may be used to assemble and hold the various parts comprising the box blanks to be operated upon or stapled by hand, the same is more especially adapted for use in connection with an automatic stapling machine, embodying mechanisms for carrying the carriage through the machine, when brought into engagement with such mechanisms, and disengaged therefrom when the operation of stapling is completed, thus allowing the use of a plurality of formers or carriages in connection with each stapling machine, and the assembling of the box materials and feeding of the carriages to the stapling machines in rapid order."

The original drawings of that workholder application (the same as in the issued patent) followed very closely the disclosure of Inwood's drawings of June 14 to 18, 1904 (attested June 21, 1904) (*ante*, old Exhibit No. 9, reproduced opposite page 776, Vol. II of record), which drawings had been made prior to the invention of the lap-cornered box. Compare, for instance, the view near the lower right-hand corner of that drawing with Fig. 2 of the workholder patent drawings (R., Vol. II, p. 1178).

Also, the drawings of the workholder application and patent show the same cleat positioning devices as those shown in the drawings of the Brown application, Fig. 6 (R., Vol. II, opposite p. 742), which Fig. 6, as Brown testified, shows the same cleat channels and cleat positioning blocks and springs which characterized the Inwood and Lavenberg models disclosed to Brown when the commercial form of machine was ordered (*ibid*, p. 745 *et seq.*)—on June 20, 1904, as Inwood testified.

Hence, it appears that all of the cleat positioning essentials of the apparatus shown in the drawings of the workholder patent were completely designed in a final commercial form, prior to June 20, 1904, when the lap-corner box was not yet in existence.

Obviously the apparatus disclosed in these patent drawings was capable of use in making any of the species of

box mentioned above. No means for positioning any particular character of side material (sectional sheets or one long sheet) were made essential in either drawings or specification.

Defendant's counsel have criticized the adequacy of the showing in this workholder application and patent because sheet positioning fins for positioning separate sheets of side material were not shown nor described. But the very omission of these sheet-positioning fins emphasizes the *generic* character of the *cleat* treating invention which disregarded details of *sheet* treating expedients. The presser bar 14 and its swinging arms 12 illustrated in the workholder patent, serve to exemplify generic sheet holding means without regard to any specific form or arrangement of side material.

The original claims on the workholder were generic—for instance:

> "1. A carriage or former for box-blank machines embodying cleat supporting members and means for spacing the cleats."

Not one of the original claims contained any reference to side material of any species or positioning means therefor. The invention was recognized and claimed to be for the relative positioning of *cleats* regardless of any specific side material that might be selected.

On January 16, 1905, the introductory part of the specification in the workholder application was amended (see file-wrapper, Defendant's Exhibit No. 15, Amendment A, Paper No. 4). The following was inserted:

> "Our invention relates to an improved appliance for use, more especially, in the manufacture of wire-bound box-blanks, as an adjunct applicable to the machine employed for stapling, or 'stitching', the parts of the box-blank together.
>
> "The box-blank referred to, which when properly folded forms four sides only of a finished box, con-

> sists of *a* sheet, *or* series of sheet-sections, reinforced on one side with cleats and on the other side with binding or strengthening wires, the parts being stitched together with staples passing over the binding wires through the sheet and into the cleats."

This is a clear assertion of the generic character of the invention whether the side material "consists of *a* sheet [the Rosback scored veneer], *or series* of sheet-sections" [which might be either an aggregation of scored sheets or the four side sheets for an open-corner or the lap-cornered box or many sheets or slats for an open crate].

In the same amendment, a new claim was inserted as follows:

> "3. A portable carriage, forming an adjunct applicable to a blank stitching machine, and comprising in combination cleat and *sheet holding* means and means for spacing the cleats with relation to each other."

This, of course, is generic to means for holding any kind of side sheet material, whether scored or sectional, or otherwise. Similarly a new claim 11 referred to

> "parallel *sheet* and cleat supporting members, cleat-spacing means upon the members, and means for clamping the *sheet* and cleats firmly to said members."

The clamping device (the swinging bar 14 of the patent drawings) is obviously arranged for clamping in place either a continuous sheet, scored or not, or sectional sheets.

This application was placed in interference with an application filed by Brown of the St. Joseph Iron Works, already refererd to, and the interference counts involving the Inwood and Lavenberg workholder application were these:

> "21. A portable carriage, forming an adjunct applicable to a blank stitching machine, and comprising

in combination cleat supporting members and spacers operating to space the cleats endwise from each other."

"22. A portable carriage, forming an adjunct applicable to a blank stitching machine, and comprising in combination cleat supporting bars and spacing blocks for the cleats on the said bars."

While there was no need to limit these claims to the portability of the carriage, they serve at least to indicate Inwood and Lavenberg's intention to claim and to contest the invention as generic to cleat treatment, wholly without regard to whatever character of side material might be used and without regard to the specific structure of the product.

The Workholder Claims.

Before the workholder patent issued its specification had been amended to indicate the specific applicability of the broad invention to the making of the lap-corner box, but nevertheless the generic character of the invention was reiterated in the claims.

For example, claims 6, 11, 13, 14, 26, 37, 38, 39 and 40 of the workholder patent No. 1,128,144 (Vol. II, p. 1178) *contain no limitation relating to a lap-cornered or other sectional box or any other species of side material or any particular structure of product.* Any or all these claims in suit would be infringed if the cleat positioning elements were employed for making the lap-corner box or an open-corner box or a scored veneer box or a fibre-board box or an open slatted crate.

Recapitulating with reference to the workholder patent: The workholder invention was made by Inwood and Lavenberg in the spring of 1904, some weeks prior to the conception of the lap-cornered box. The application upon that workholder was filed before any application was made upon the lap-cornered box. The patented workholder can be

used for making a scored veneer box or an open-corner box or a fibre-board box or a crate, all within the scope of several of the claims; in fact, the first use of the workholder was in making the scored veneer box prior to the invention of the lap-cornered box. From the outset, Inwood and Lavenberg have asserted the generic character of the invention in the field of *cleat* treatment without regard to any species of side-material; and the claims are infringed without regard to the specific side-material employed.

The Blank Machine Patent.

A similar situation exists as regards the patent here at bar on the blank machine, entitled "Means for Making Box Blanks", application filed October 27, 1904 (R., Vol. II, p. 1192).

In the original blank machine specification (see file-wrapper of patent No. 1,128,145, Defendant's Exhibit No. 14, a physical exhibit, the original specification page 1), it was said:

> "This invention relates to improvements in means for making box-blanks, and has for its object the provision of an extremely simple and inexpensive machine of this character that will secure the parts of a box together in a more efficient manner and with greater rapidity than has heretofore been possible in other machines for this purpose."

By amendment of January 16, 1905, the specification continued:

> "The box-blanks each consist of *a* sheet of veneering *or* the like, to one side of which is secured cleats and to the other side, binding or strengthening wires which are stapled or otherwise fastened upon the sheet adjacent to the cleats, so that the staples will penetrate both the sheet and cleats."

This shows that the applicability of the invention was by no means confined to any species of side-material for

making the lap-corner or any other particular type of box. None of the claims contained any limitation to any specific side-material or to any species of box product.

The Blank Machine Claim in Suit.

As the blank machine invention is claimed in Claim 25 which was sustained by Judge DENISON and found infringed, it is *generic* to *cleat* treatment without reference to any species of side material or product. The side material is referred to, but the generic expression "side material" is used in each instance and the claim in suit would unmistakably cover the use of the mechanism whether employed for making the scored veneer blank or lap-corner blank or open-corner blank or fibre-board blank or crate blank.

The Box Patent.

With the broad machine claim in suit, the box reissue patent No. 12,725, is in sharp contrast. The original application for box patent was filed October 17, 1904, and the original patent No. 799,854 (R., Vol. III, p. 1518), issued September 19, 1905, with a single claim as follows (the same as claim 2 of the reissue patent No. 12,725, R., Vol. III, p. 1231):

> "A wirebound foldable box-blank, comprising a plurality of straight edged sheets, wires secured to and connecting said sheets, and step-mitred cleats secured to said sheets to terminate short of edges of the latter a distance equal to the thickness of a sheet, whereby when folded at a right-angle the end of one sheet overlaps the end of an adjacent sheet."

Upon reissue a slightly broader claim was allowed, avoiding the limitation to "step-mitred" cleats, which had been recited in the original claim, and the broader claim now appears as claim 1 of the reissue, as follows:

> "1. A wire-bound foldable box-blank, comprising a plurality of straight-edged sheets, wires secured to

and connecting said sheets, And cleats secured to said sheets to terminate short of edges of the latter a distance equal or approximately equal to the thickness of a sheet, whereby when folded at a right-angle the end of one sheet overlaps the end of an adjacent sheet."

The extremely specific character of these claims is manifest. Compare their terms with the Rosback scored veneer blank shown, for instance, in Figs. 35 and 36 of the Rosback patent No. 608,796 (R., Vol. III, p. 1300). The comparison is facilitated by observing Figs. 1 and 3 of the reissue patent No. 12,725 (page 1231). Or see the drawings in Respondent's brief, p. 32.

The *cleat* relationships to each other in the Rosback blank and in the Inwood and Lavenberg blank are practically identical. The cleat ends are spaced from each other so that their respective step-mitres will mesh when the blank is folded into box form. The sole difference resides in the facts that (1) the Rosback *side material* is continuously integral and only scored at the box corners while (2) the Inwood and Lavenberg *side material* is separated into four sections and the dividing line between one section and the next is so positioned at the inter-cleat interval that when folded one side sheet margin will overlap an adjacent side sheet edge. In other words, the difference betwen the two blanks is simply in the specific arrangement of *side material*, without affecting relationships of cleats to each other.

Thus the Inwood and Lavenberg reissue patent must be restricted, as it is in terms, to the specific detail of side material arrangement. And the machine patent on the one hand, and the box patent on the other, are wholly independent of each other. The difference is not merely between machine for producing, and the product produced. It is a difference between distinct fields of invention, the invention in *each* field being usable either *with or without* the other.

There is not the slightest intimation that the novelty of

the lap-corner box depends upon or even relates to any aspect of *cleat* treatment. The specification does not even disclose the method of preforming and relatively positioning cleats, but confines its disclosure, properly, to the manner of dealing with *side sheets*. The patent drawings show, in the *finished* blank and box, the separate individual cleats. But so also every disclosure of the Rosback finished blank and box shows the *same* arrangement of separate individual cleats. And the specification of the box patent omits any information as to whether the individual cleats shown in the patent were preformed according to the Inwood and Lavenberg practice or were cut from the long cleat strips of a rigid blank according to the Rosback method. That detail of *cleat* treatment was irrelevant to the disclosed presence of cleats in the finished product and equally irrelevant to the novel *side-material* treatment which exclusively was the subject of the reissue patent.

In the claims of the reissue patent No. 12,725 we find the cleats referred to, but only for the purpose of defining the arrangement of *side sheets*. Theer is no intimation that the cleats may or must be preformed; or that the relationship of cleats should be in the slightest degree different from that in the original Rosback scored veneer blank. The subject-matter of each claim would be produced exactly if the cleats, instead of being preformed, were severed and step-mitred *after* attachment of long rigid cleat strips to the four separate side sheets according to the Rosback cleat treatment.

Recapitulating, as to the showing of the patents themselves:

(1) The machine patents in suit are in the field of *cleat* treatment.

(2) Claim 25 of the machine patent in suit is generic to cleat treatment, quite regardless of any specific *side material*.

(5) The machine claim 25 in suit does not contain, expressly or by implication, the slightest limitation to the use of the invention with the specific side material of the lap-corner box.

(6) The lap-corner box and the invention thereof covered by the reissue patent No. 12,725 is in the distinct field of *side-material* treatment.

(7) The reissue patent discloses a method of preforming and assembling four separate side sheets so as to produce the lap-corner box, but does not disclose nor claim the cleat preforming and positioning method.

(8) While the generic cleat treating invention of the machine patent in suit, as defined by the claim in suit, is applicable to the making of at least five species of box, only one of those species is covered by the lap-corner box patent.

(9) The lap-corner box of the reissue patent No. 12,725 may be produced by any one of at least three methods and machines, by either of the two modified Inwood back methods and machines, or by the Inwood and Lavenberg method and machine. But only one said character of machinery involves the invention of the machine patent in suit.

Obviously the showing by the patents themselves is wholly consistent with the history of development narrated earlier herein, to establish beyond question the generic character of the Inwood and Lavenberg machine invention in the field of *cleat* treatment, and the specific and limited character of the lap-corner box invention in the separate field of *side material* treatment. The earlier made generic machine invention revolutionized cleat treatment in the art with great advantages of simplicity and economy in production, regardless of such species of side

Respectfully,

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